BANK OF FINLAND

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Monetary policy and economic outlook

Risks related to increasing debt and ample liquidity

Will rapid growth in China continue?

Monetary policy assumptions in central bank forecasts

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Monetary policy and economic outlook

30 November 2004

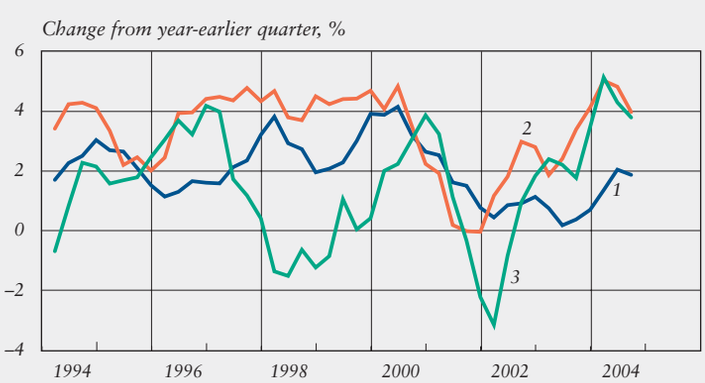
The upswing of the world economic cycle, which began in late 2003 and had been quite robust, has more recently slowed down. One reason for the slowing is the high price of oil, which has also raised consumer prices in many countries. The Finnish economy appears headed for just over 3% growth in 2004.

World economic growth, after accelerating in the latter part of 2003, has been cooling off since the spring of 2004 (Chart 1). Developments have however varied across regions. Rapid growth eg in the United States, China, and Russia has been counterbalanced by weakening economic performance during the summer and autumn in the euro area and Japan. One of the obstacles to continued rapid growth has been the notable rise in the price of oil, which at the same time reflects continuing robust performances by the Chinese and some other economies. Prices of metals and many other industrial commodities have also remained higher than in 2003. These developments are also signs of China's growing importance in the world economy.

According to recent forecasts by international organisations, the world economy should continue to grow at a respectable rate in 2005, albeit whole-year growth is not likely to match that for 2004. And there is also the possibility of a weaker-than-forecast performance. The elevated price of oil is having a serious dampening effect on many oil importing economies, eg by squeezing households' real incomes and companies' profitability. Based on prices of oil futures, the markets are expecting the price of oil to ease somewhat but to remain above last year's level. While the demand for oil has been on the rise, we have seen a shortage of production capacity in the making. For this reason, the price of oil has become increasingly sensitive to actual and potential production disturbances (Box).

Chart 1.

Real GDP



1. Euro area
2. United States
3. Japan
Sources: Eurostat, Bureau of Economic Analysis (BEA) and Economic and Social Research Institute (ESRI), Japan.

Box.

Many reasons for rising oil prices

The price of oil has risen substantially in the course of 2004. The primary reason is the robust growth in demand, probably the biggest increase in nearly 30 years. China's demand has jumped in recent years: in the period 1999–2003, it accounted for nearly 40% of world demand growth. The US share of the growth was just over 20%.

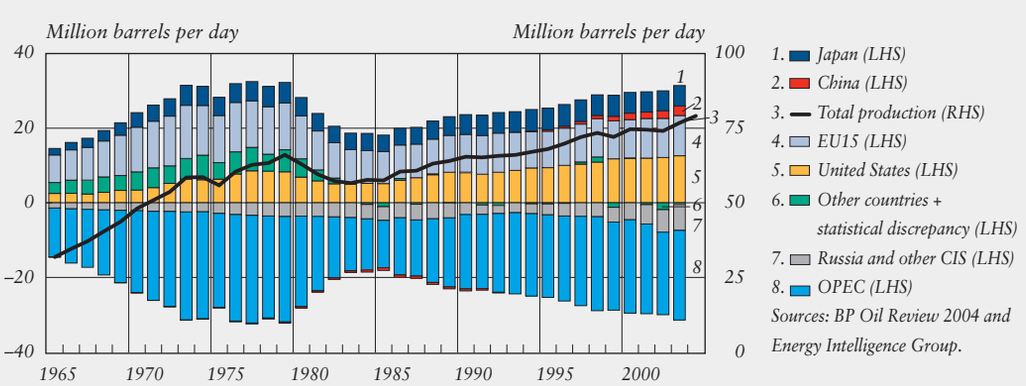
Chart A provides a breakdown of the net demand for oil by country/group. Net demand is the difference between oil consumption and own production of that specific country/group. US net demand for oil has increased steadily over the last 20 years, as own production has declined, while the EU15 countries' net demand has remained flat. Chinese net demand for oil has surged recently. The world's net supply of oil is largely dependent on OPEC countries, which have raised their output levels significantly since the mid-1980s. However, in recent years the situation has changed somewhat: about half of the world's growth in output in 1999–2003 is attributable to increases in Russia's output.

Even as the demand for oil has surged, output has generally exceeded consumption this year. The rise in oil prices has probably been affected more by the uncertainty of supply, rather than a shortage, and this uncertainty is contained in the price of oil in the form of a risk premium. This risk premium has increased because unused capacity for oil production and refining has markedly decreased, with the result that even minor production hitches or threats are quickly reflected in price movements. It is likely that a lack of unused production capacity, especially among OPEC countries, has contributed to the rise in oil prices.

There have recently been different developments across the different grades of oil (Chart B). The biggest price rises have been for better grades and those more easily refined for into liquid fuel for transport (eg Brent crude and West Texas Intermediate, WTI); prices of lower grades (eg Dubai)

Chart A.

Oil consumption-production gap



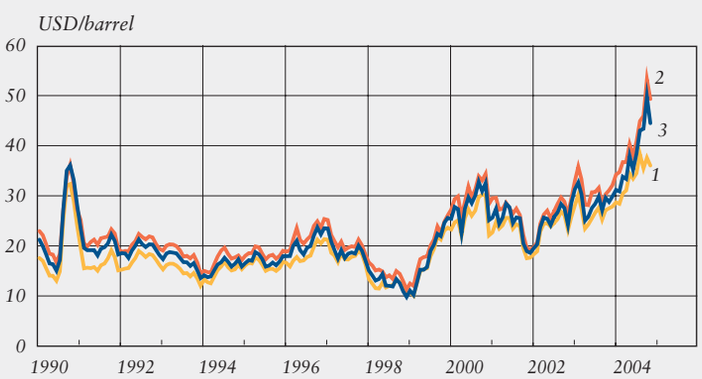
Sources: BP Oil Review 2004 and Energy Intelligence Group.

have not risen as much. In Europe and especially the United States, the lower grades of oil, especially from the Middle East, are used to a lesser extent than in Asia. The significant widening of price differentials among the different grades of oil has seemingly led to a situation wherein the Asian countries are paying less for their oil than eg is the United States.

Investment needs connected with oil will continue at a high level because of the fact that low oil prices in 1985–2000 discouraged investment. The International Energy Agency (IEA) has estimated a need for net investment over the next 30 years amounting to some 5% of the world's annual GDP. It is likely that some of the new investments will have to be aimed at more costly oil sources such as oil shale and deep-sea drilling, which will raise production costs. Even though the world's oil reserves are not likely to be depleted in the near future, they are becoming increasingly concentrated in the OPEC countries, as other sources (eg North Sea) run dry. Concentration of oil reserves in fewer and fewer countries could increase the volatility of oil prices and so permanently increase the associated risk premium.

Chart B.

Crude oil prices



1. Dubai
2. WTI
3. Brent
Source: Bloomberg.

The near-term outlook for US economic growth is for a continuation of a relatively strong performance. The prognosis is however clouded by the persistence of large deficits, in both the public sector and the current account. The country's festering indebtedness problem has put increasing downward pressure on the dollar during the autumn of this year. While dollar weakening is certainly good for US exports, these do not loom large in the US economy. Because growth prospects for the euro area and Japanese economies are not particularly upbeat, the US current account will hardly be brought into balance merely via changes in exchange rates. This will probably require as well a deceleration of the growth of US domestic demand.

The strengthening of the euro (Chart 2) and slowing of world economic growth have combined to curb the growth of euro area exports during the summer and autumn months. Euro area domestic demand has not totally counterbalanced the weakness of the export sector, so that the area's prospects remain mediocre for the near term.

Even though the price of oil has boosted inflation in the euro area there are no clear signs of a weakening of the longer-term outlook for inflation. The ECB Governing Council has kept its policy interest rate steady.

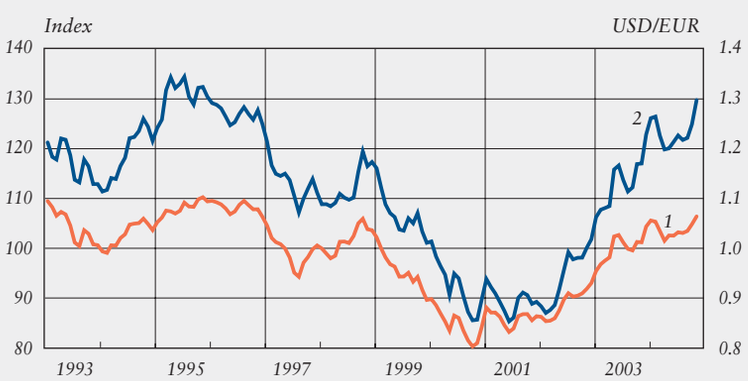
Finland's GDP growth has picked up in the course of 2004. For the whole year, growth could exceed 3% and narrowly beat the Bank of Finland's September forecast. In contrast to many previous recoveries, export performance this time around remains modest. The weakening outlook for the world economy has recently had an impact on confidence in the Finnish industrial sector.

Oil price rise has raised consumer prices

The rise in oil prices has boosted inflation in many of the industrial countries. The price of Brent crude

Chart 2.

Euro's trade-weighted exchange rate index and dollar exchange rate



1. *Exchange rate index, Jan-Mar 1999 = 100* (LHS)*
2. *USD-value of one euro** (RHS)*

** Before 1999: trade weighted index of currencies of euro area countries. Rising curve indicates euro appreciation.*

*** Till 31 Dec 1998: ecu exchange rate.*

Source: ECB.

peaked in October 2004 at more than USD 50 per barrel. Although conditions in the oil market eased in November and prices declined, they still remain considerably higher than in the early part of the year. Moreover, market expectations, as measured by oil futures prices, are not pointing to any significant decline in prices in the near future. Even as the demand for oil remains strong, new production capacity is coming on stream at a sluggish pace.

Also for the euro area, the primary threat to near-term price stability is the climbing price of oil, which has already had a marked effect on consumer prices of oil products. As measured by the overall harmonised index of consumer prices (HICP), euro area inflation has exceeded 2% pa during the summer and autumn months. In November inflation reached 2.2%, according to preliminary data (Chart 3), and it is projected to remain above 2% over the next few months.

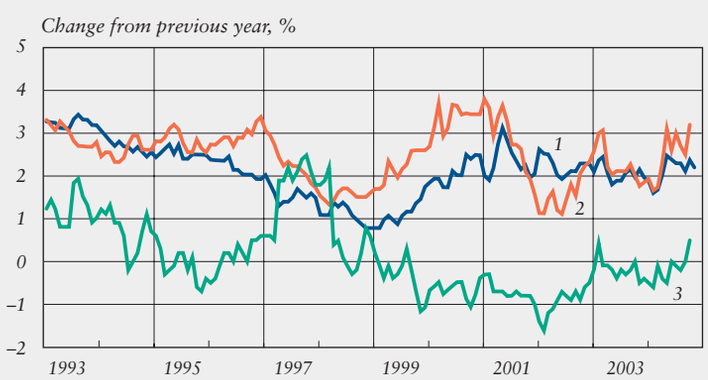
Despite the risks attached to the price of oil, there are no clear signs of a build-up of inflationary pressure in the euro area for the medium term. Countering any inflationary pressure are euro appreciation and the sluggish growth of the economy. Moreover, wage increases have remained moderate in the context of long-standing laxity of the labour markets.

The rise in the price of oil has boosted inflation.

Based on the medium-term outlook for inflation, the European Central Bank has held its policy interest rate steady at 2% since June of 2003. During autumn of this year, the market's expectations of a rise in the level of interest rates have eased as a result of the weakening economic outlook and appreciation of the euro. Based on the yields of indexed bonds, the rise in the price of oil has not significantly raised the markets' inflation expectations. Euro area long-term interest rates have actually edged downward in the last few months. At the end of November, the

Chart 3.

Consumer prices



1. Euro area
2. United States
3. Japan
Sources: Eurostat and OECD.

area's average annual yield on 10-year government bonds was under 4%.

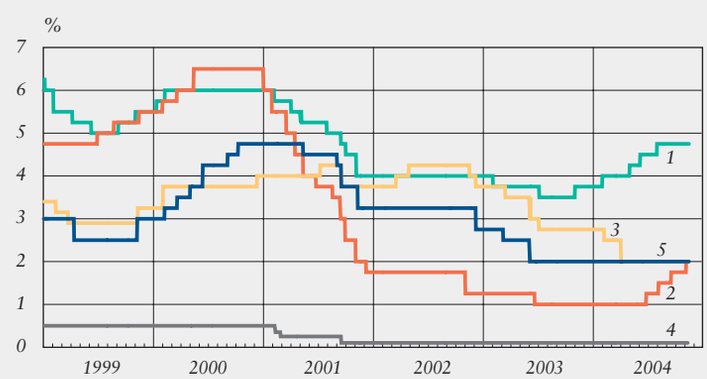
Also in the US consumer prices have picked up speed. This is not due solely to the rise in oil prices; fairly robust economic growth has also played a part. In October the 12-month inflation rate was 3.2%. Recently, market expectations of inflation, as measured in terms of indexed bonds, have also increased slightly.

The US Federal Reserve has in fact changed its monetary policy stance in light of robust economic growth and higher inflation. The Fed has raised its policy interest rate already four times since the summer of 2004, after keeping it at 1% for a year (Chart 4). The most recent move, in the early part of November, was up to 2%.

The Bank of England has also raised its policy rate several times in the course of the last twelve months, to its current level of 4.75%. The factors behind the rising level of

Chart 4.

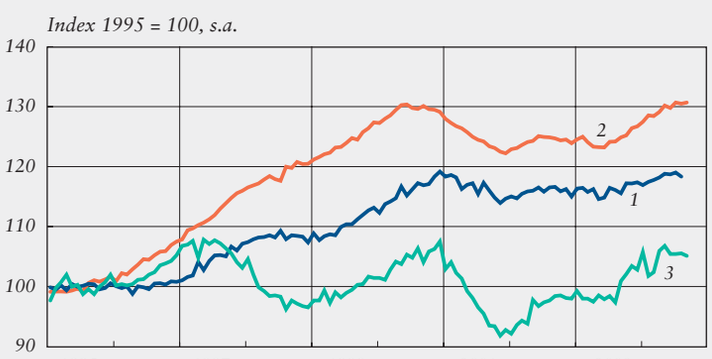
Central bank policy rates



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

Chart 5.

Industrial production



1. Euro area
2. United States
3. Japan
Source: Bloomberg.

interest rates have been robust economic growth, rising house prices, and a tight labour market.

US economy still growing rapidly

US GDP has continued to grow at a rapid pace in 2004. Third-quarter GDP (according to preliminary data) was up nearly 4% (annualised) on the second quarter, and from 2003 Q3, GDP grew by 4%. Economic growth has been strongly supported by private consumption, and traditional investment in machinery and equipment has also recovered. On the other hand, growth in the manufacturing sector levelled off during the third quarter (Chart 5).

US economic performance is expected to remain propitious in the near term despite the high price of oil. Even though confidence indicators for households and business have weakened in recent months, companies in particular remain fairly confident. According to the manufacturing purchasing managers' index (PMI) for October, the prospects for new orders and production are good. The main areas of concern are energy and raw material prices. The service sector index also registered a positive outlook.

During the summer, the employment situation in the United States weakened. Growth in the number of non-farm jobs slowed significantly compared to the healthy pace recorded in the early part of the year. Recently, growth in the number of employed has picked up again.

US GDP growth for all of 2004 could slightly exceed 4%. However, serious economic imbalances, combined with high oil prices, are casting a shadow over the longer-term outlook. The persistent deficit on the current account has in fact accelerated the decline in the dollar's external value during the autumn months. According to recent forecasts, economic growth will be considerably less robust in 2005 than in 2004.

Chinese economic growth has slowed down slightly

The Chinese economy has been growing at a torrid pace, albeit it has cooled somewhat in the course of 2004. Growth in the third quarter was about 9%, measured from 2003 Q3 (Chart 6). Industrial production, investment, and retail sales have continued to grow at a rapid pace, although the pace has slowed since the first half of the year.

Private consumption has supported US economic growth.

The recent rise in crude oil prices has been partly due to China's rapid growth. The increased use of private cars and inefficient use of energy have significantly boosted oil consumption. Any slowing of Chinese economic growth or efficiency improvement in the use of energy would help to stem the upward pressure on the price of oil in the world markets.

In order to prevent economic overheating, the Chinese government has tried to slow the growth of production inter alia by placing restrictions on

lending. Moreover, the Chinese central bank raised its policy interest rate by about a quarter percentage point in October, to just over 5.5%. Even in the face of rising oil prices, Chinese inflation has recently receded somewhat, thanks largely to a bountiful harvest and resulting deceleration in food price inflation.

Japan's economy powered its way into the world economic upswing in the latter half of 2003. The country's exports grew rapidly, with supporting demand coming from China and other Asian countries inter alia. A recovery in domestic investment provided a further economic lift. Forecasts of Japanese economic growth in 2004 were repeatedly revised upward, to over 4%. However, during the spring and summer of this year, the upsurge slowed considerably. In 2004 Q3, output nearly posted zero-growth on the previous quarter, as export and investment growth both faded. On the other hand, private consumption has continued to soar, as reflected eg in a slight improvement in the employment situation and a firming of consumer confidence.

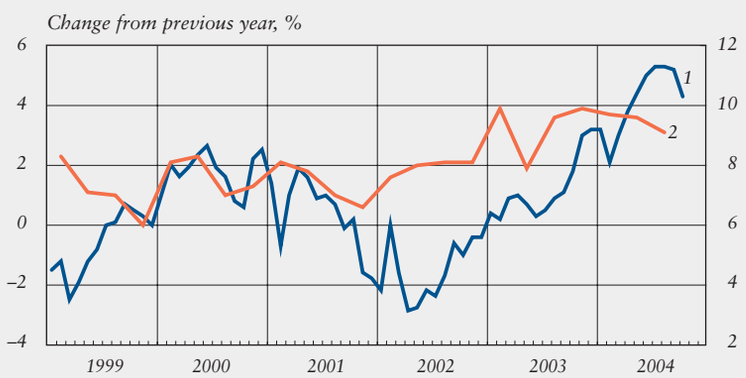
Based on the central bank's Tankan survey, Japanese manufacturers are also fairly upbeat about economic conditions. The near-term prognosis for the economy in fact remains fairly good, and GDP growth is expected to accelerate again, albeit not nearly up to the pace recorded in late 2003 and early 2004.

Euro area economic growth has slowed

The euro area barely made the list of economies on the rise. The growth pick-up has been slow, and the growth rate has remained below that of the other major economic regions. Following a spurt in the early part of 2004, growth has slowed in the course of the year. According to preliminary data, GDP growth in this year's third quarter was only 0.3%

Chart 6.

China's inflation and GDP growth



1. Consumer prices (LHS)
2. GDP (RHS)
Source: Bloomberg.

compared to the previous quarter and less than 2% from a year earlier. Indicator figures for the latter part of the year suggest that growth for 2004 as a whole could be less than 2%.

Growth in the value of exports from the euro area to other countries came to a halt in the latter part of the summer, which suggests that total volume growth slowed in the third quarter. It appears likely that exports are no longer propelling the euro area economy as in the first half of the year. Two of the reasons for this are the moderating of world economic growth and the appreciation of the euro. Euro area economic growth is not expected to pick up as the year winds down, a prognosis that is supported by survey results on business confidence. For example, the purchasing managers' index declined during the autumn (Chart 7) and the index of manufacturers' new orders indicates a slowing of the increase in the order backlog.

Private consumption has shown weakness. The indicator of consumer confidence is still below its long-run average. Consumer confidence is held down by persistently high unemployment, at a rate of about 9%.

The sluggish growth of the German economy has left its mark on euro area economic performance, substantially affecting the numbers for the whole area. The German economy is facing some difficult structural problems, and growth has been heavily dependent on exports during the last few years. At the same time, economic growth in the rest of the euro area countries has had a more balanced basis, with support coming from both consumption and investment.

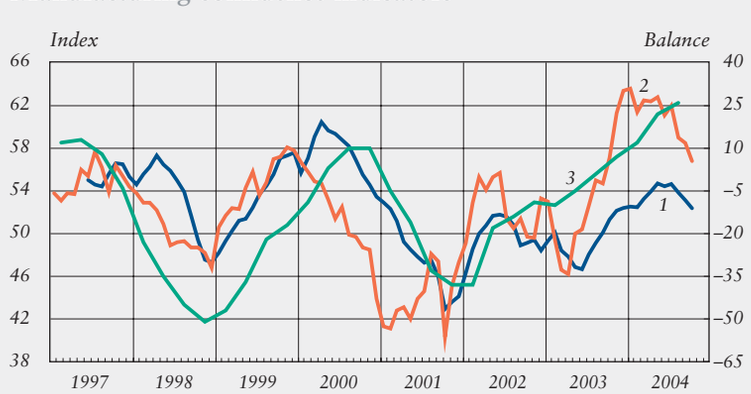
Euro appreciation hinders euro area exports.

Stability and Growth Pact under fire

The European Commission's autumn forecast saw some weakening of the euro area's general government

Chart 7.

Manufacturing confidence indicators



1. *Euro area purchasing managers' index (LHS)*
2. *US purchasing managers' index (LHS)*
3. *Japan's Tankan index* of large manufacturers (RHS)*

* *Structural change in Dec 2003.*

Sources: Reuters, ISM and Bloomberg.

financial position in 2004 compared to 2003. The deficit is expected to amount to 2.9% of GDP.

The EU's Stability and Growth Pact, which is a guide for fiscal policy coordination between member states, is in a credibility crisis, as more and more member states break the budget deficit ceiling of 3% of GDP. The deficits of Germany and France have already exceeded the reference value for three years running. The latest countries to break the rule are Greece and the Netherlands. Six of the new EU countries – Cyprus, Czech Republic, Hungary, Malta, Poland and Slovakia – will immediately be subject to the excess deficit procedure.

In September the European Commission published a proposal for improving the Stability and Growth Pact. The aim is to improve implementation of the pact and to resolve a dispute between the Commission and finance ministers' ECOFIN Council concerning interpretation of the pact. The ECB Governing Council has also rendered an opinion on the Commission's proposal, calling for preservation of the pact in its present form, especially the excess deficit procedure. The ECB Governing Council, on the other hand, feels that implementation of the pact could be improved. The Commission's proposal is especially useful as regards the preventive arm of the pact.

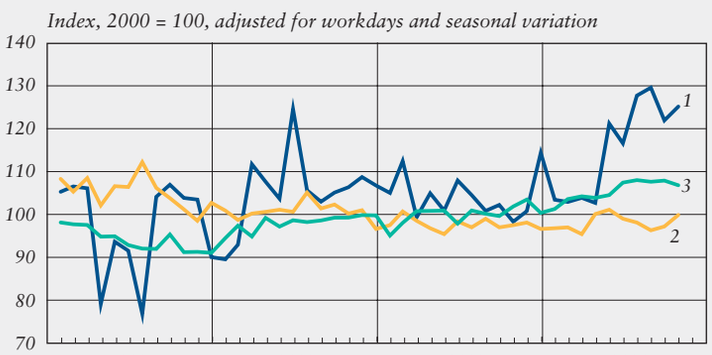
Finnish economic growth has accelerated

Finland's economy gained momentum in 2004. What happened was not the traditional export-driven recovery, with increases in export volume and especially export prices and, in their wake, a surge in industrial investment. Growth has instead been spurred by production of electronics industry products, private consumption and housing investment.

During the first three quarters of 2004 total output increased by just

Chart 8.

Manufacturing real output



1. Electronics
2. Other metal and engineering
3. Forest industry
Source: Statistics Finland.

over 3% compared to the same period of 2003. The increase in the third quarter was more than 3.5% on 2003 Q3. The electronics industry, where output has grown by leaps and bounds, appears to have played a key role. Forest industry output, in contrast, has not been growing at all in recent months (Chart 8).

Based on indicator figures, the performance in the latter part of the year could be slightly weaker than in the third quarter. Confidence in the manufacturing sector has declined since the summer. Inventories of finished products have increased, and the increase in order backlogs has come to a halt. Euro appreciation against the dollar has put some downward pressure on export prices. GDP growth for 2004 as a whole could climb above 3% and thus marginally top the Bank of Finland's September forecast figure. For 2005 and 2006 growth prospects remain virtually unchanged.

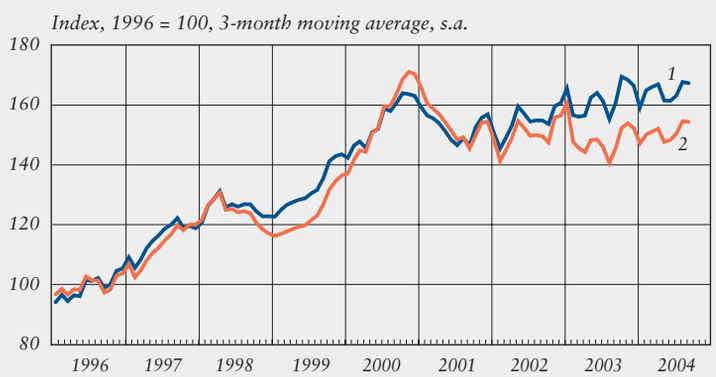
Considering developments in world trade, Finland's export performance in 2004 has been weak, in terms of both value and volume (Chart 9). Goods exports have not increased at all, even though world trade is estimated to have increased substantially. Part of the explanation for Finland's weak export performance may be the appreciation of the euro. A substantial part of Finnish exports go to non-euro area countries, and so Finland is more vulnerable to movements in the euro's exchange rate than euro countries on the average. On the other hand, demand growth in Finland's export markets – excluding the euro area – has been robust. Nonetheless, Finland's export sector seems not to have been able to take full advantage of that growth.

Unfavourable export price developments are hurting Finnish companies.

The weakness in the value of exports is also partly due to unfavourable price developments (Chart 10). Export prices of paper products have languished, nor is an upward turn

Chart 9.

Finland's goods exports, volume and value



1. *Export volume**
2. *Export value*

* *Export volume calculated using Statistics Finland's export price index.*

Sources: Board of Customs and Bank of Finland.

expected before the latter part of next spring, and export prices of electronics products have continued to slide. Sustained strong growth of the world economy has however buoyed export prices eg of basic metals.

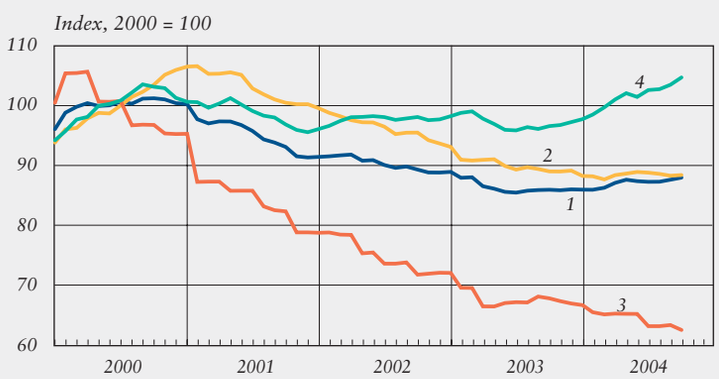
Based on Statistics Finland's labour force survey, the country's seasonally adjusted unemployment rate has remained at about 9% for the last couple years. In absolute terms, this translates to about 230,000–240,000 persons in the ranks of the unemployed. Labour market conditions appear to have improved slightly during the autumn. Notices and lay-offs in industry are on the decline, and the service sector is generating new jobs. The improvement in the employment situation could well continue for a while yet, albeit slowly.

Inflation is normalising

The rate of increase in Finnish consumer prices in 2004 has been the

Chart 10.

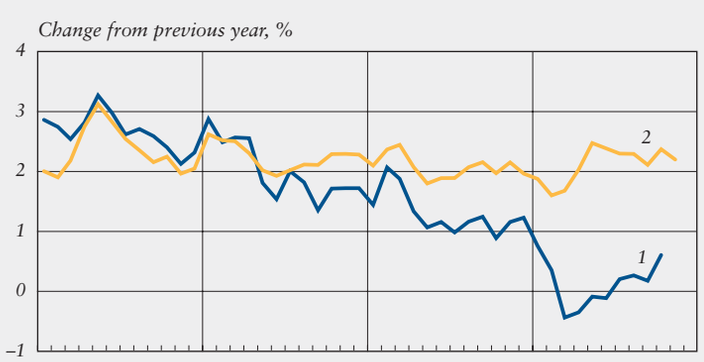
Export prices



1. Overall index
2. Paper industry
3. Manufacture of electronics and electrical products
4. Other
Source: Statistics Finland.

Chart 11.

Harmonised index of consumer prices



1. Finland
2. Euro area
Sources: Eurostat and Statistics Finland.

lowest of the euro countries. During the months of the late spring and early summer, prices declined on average compared to 2003. Two factors are behind the low inflation: changes in indirect taxes and heightened competition. The easing of car and alcohol taxation has lowered the prices of these products. The change in alcohol taxes has had a pronounced impact on inflation this year, while competition has tightened especially in telecommunications and retailing.

The 12-month rate of change in consumer prices has in recent months returned to above the zero level (Chart 11). In October, HICP 12-month inflation was 0.6%. The rise in oil prices has applied some upward pressure on the price level, and inflation could accelerate somewhat in the next few months, partly because the tax-change impacts will drop out of the inflation calculus.

Conditions in the housing market have eased in recent months as the price rise has levelled off and times required to sell have apparently increased. Statistics Finland reported that prices of existing flats across the country declined in 2004 Q3 compared to the previous quarter. Developments have however varied by region: in the Greater Helsinki area, prices declined; elsewhere they rose.

Key words: inflation, monetary policy, economic situation

Risks related to increasing debt and ample liquidity

27 October 2004

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Households and companies in many countries have rapidly run into debt in recent years. At the same time, liquidity within economies has increased. This rapid growth in finance adds to the uncertainty about the prospects of the world economy.

The global monetary economy today is burdened by two kinds of problems. First, the economies of certain large nations are characterised by strong monetary growth, large deficits and debt problems. Second, price developments in the world economy are disparate: the prices of many products are decreasing while the prices of commodities and residential real estate have been rising.

Monetary and fiscal policies have been relaxed in recent years, particularly in the United States. The deficit of the federal budget has been allowed to grow, and the monetary policy rate was kept at an exceptionally low level of 1% for extended periods. Due to the general linkage of currencies to the dollar, easy financing conditions have spread throughout the world, particularly in Asia. On the other hand, many countries have also aimed at relaxed monetary conditions on purpose.

The ease of monetary policy has been based on slow inflation rates, and in some countries, even deflation. Weak pricing pressures have largely resulted from increased competition by so-called low-cost countries. In the new competitive environment, relaxed monetary policy has not lead to an overall rise of inflation. However, the ease of the policies has probably played a role in the rise of energy, commodities and residential real estate prices.

Relaxed monetary policy has resulted in a rapid growth of the loan stock and liquidity in many countries. This increases the likelihood of the emergence of debt problems in the future, as well as the extent of consequent difficulties. In the next few years, finance growth is bound to come to a halt, which will limit the growth of the world economy.

Monetary and credit items have grown rapidly

In recent years, the world's financial market has been flooded with liquidity due to strong loan demand boosted by low interest rates and particularly the rising tide of credit into the housing market. In addition, currency interventions have increased domestic liquidity in many countries. This has been particularly the case in Asia, where central banks have sought to contain the strengthening of their currencies by purchasing particularly dollars in great quantities. This has been balanced out by issuing domestic currency.

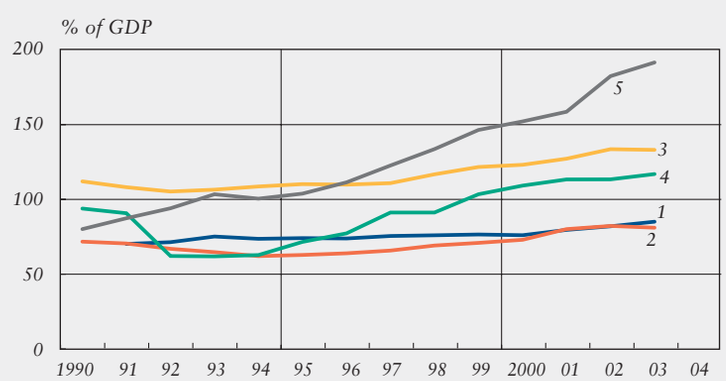
In the United States, monetary policy has not focused on the amount of money in circulation. Instead it has been considered that the impact of

monetary policy would transmit directly from interest rates to the economy. On the other hand, the ease of monetary policy can also be seen in monetary and credit data. Growth rates of the various monetary aggregates have differed from one another, but the broadly defined aggregate M3 has been growing rapidly (Chart 1). However, growth has recently slowed down to about half of the annual 10% seen around the turn of the millennium. In the United States, particularly households have run rapidly into debt. Savings alone have not been enough to cover the financing needs in the country, and therefore the whole foreign net debt of the United States has already expanded to almost 30% of the GDP. The figure is one of the largest among developed nations.

In the euro area, finance growth has also been rapid all the time the euro has been in use. However, the euro area has not gone into debt to the

Chart 1.

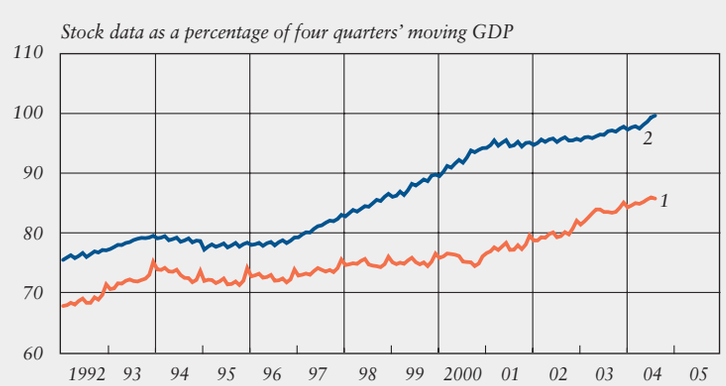
Broad money in selected countries



1. Euro area
2. United States (M3)
3. Japan
4. United Kingdom
5. China
Sources: IMF (IFS) and Eurostat.

Chart 2.

Euro area M3 and loan stock



1. M3
2. Loans
Sources: European Central Bank and Eurostat.

rest of the world. In recent years, the broad monetary aggregate M3 has increased from time to time, even up to an annual rate of 7–8%, and the ratio of money in circulation to the GDP has risen significantly (Chart 2). Around the turn of the millennium, economic growth was associated with the rapid growth of bank loans, at a rate of about 10% annually. It has, however, moderated since then.

Global liquidity is ample and economies indebted to a large degree.

The narrow monetary aggregate M1 almost doubled in Japan between 1996 and 2002. At the same time, however, the value of total output decreased. Japanese banks' stock of loans to the public contracted, partly due to a clean-up of non-performing loans. Monetary growth is explained by lending to the public sector and currency interventions. The increase in liquidity has resulted from intentional economic resuscitation.

In China, prices have recently been rising after a long period of deflation, and the strong economic growth in the country amounting to 8–9% has also contributed to a global rise in commodity prices. Financial items have grown rapidly in China, even by international standards. The amount of broad money corresponds to the total output of two years, and the value of loan stock to the output of one and a half years. The problem with China is that a large proportion of loans remain non-serviced, and banks are in difficulties. Control over the Chinese monetary economy is therefore likely to require continued regulation for the time being.

Financial growth in smaller countries shows variation, but at any rate liquidity is now ample on a global scale and economies are generally indebted to a high degree. The total amount of money in the world cannot be calculated in a straightforward manner, for instance, due to different institutional structures and exchange rate problems. However, monetary growth rates can probably be combined in a reasonable manner. In this context, this has been done by weighing the development of broad M3 (ratio to GDP) in various countries as follows: United States 33%, euro area 25%, Japan 25%, China 10% and United Kingdom 7%. At market prices, these countries account for over 3/4 of the world economy and even when adjusted for purchasing power for 2/3 of it.

Calculated in this manner, the amount of broad money in large countries has grown in ten years from 80% to about 110% of GDP (Chart 3). Growth has been powerful in recent years. Credit growth has been more or less similar.

Indebtedness and cross-pressures on prices

Easy monetary policy has been founded on low inflation pressures resulting to a large degree from a decrease in the prices of industrial products due to price competition pressures and increases in productivity. Along with the liberalisation of

world trade, the Asian emerging economies, Eastern Europe, Mexico and other low-cost countries are competing increasingly in the markets of industrialised countries.

In countries with ample and cheap labour, and China in particular, due to wage competition, increases in productivity are only partially transferred to the labour force as real wage growth. Instead, productivity benefits are largely transferred as price benefits to consumers, including consumers in western countries. In addition to decreasing import prices, price indices in developed nations have been weighed down by the price and wage policies of the open sector which have turned cautious. The sector has largely lost its pricing power, which has encouraged attempts at improving productivity.

The competition from low-cost countries has an impact on relative prices. This is a phenomenon of the real economy, which cannot, in general, be affected by monetary policy. In this context, expansionary monetary policy has resulted in an upward spiral of housing prices in western nations. In Japan, monetary policy has been used in an attempt to break free from the deflationary spiral. Hence indebtedness has increased and liquidity has ballooned to great proportions.

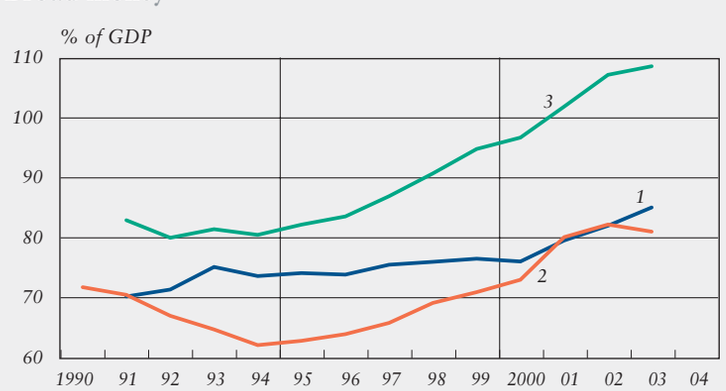
The price competition from low-cost countries is not temporary, but rather seems likely to increase in the future. Price competition from China and India may even continue for decades because they have an underemployed labour force reserve of hundreds of millions. Countries with high income levels are unable to stand up to this competitive situation permanently with relaxed monetary policies but instead must adapt to the new global competitive situation in real terms.

Price competition from low-cost countries is not temporary, but rather seems set to increase in the future.

The domestic demand of the United States, which is considered strong in comparison with the rest of

Chart 3.

Broad money



1. Euro area (M3)
2. United States (M3)
*3. Large countries **
** United States 0.33, Euro area 0.25, Japan 0.25, China 0.10 and United Kingdom 0.07.*
Sources: IMF (IFS) and Eurostat.

the world, has run the nation rapidly into debt. Since the sum of current account changes at global level is zero, other countries' current accounts have generally strengthened. However, this has not been significant in large countries, partly due to energy price increases accumulating surpluses in oil production countries.

The world needs dollars, but not in excess.

At present, economic units in the United States are often overindebted to both home and abroad – fortunately, however, in their own currency. So far, debt problems have not become prominent, because interest rates still remain low. Japan and China already have a big problem with non-performing loans. Debt stocks have also grown significantly in many euro area countries, but as a whole, the financial position of the euro area is more stable.

In this context, it may not be enough in most countries to focus on overall inflation as a foundation for monetary policy. Increasing attention must be paid to the structural accumulation of debt as well as liquidity developments. Trend-like formation of problems in financial structures should not be allowed.

What could even out the problematic imbalances?

In the United States a very positive view of the nation's economic prospects largely prevails. According to this view, the accumulation of debt in the United States rather shows the strength of the economy, which has made foreign investors to invest in the United States. Even significant indebtedness is not a problem as long as the returns on real investments continue to exceed the interest paid on foreign finance. Current account and public finance deficits are not excessive as long as expansionary policies remain temporary and demand in the rest of the world starts to pick up before long.

This optimistic scenario could hold true if investments had been made primarily in strong companies. This used to be the case before, particularly during the technology boom, but in recent years investments have been channelled mainly into the rapidly growing US public debt. An increasing proportion of the investments have come from Asian central banks. Their interests have been concerned with currency policies and been fairly independent of the prospects of US companies.

Finance problems are likely to increase gradually in the United States. The inflow of private foreign investments into US companies does not grow easily into as large a proportion as in the brightest years. It is likely that demand growth in the world economy has already peaked, and therefore the emergence of additional demand somewhere, enough to pull US imports into strong growth, seems unlikely.

The constant growth of debt makes the United States as well as other economies increasingly exposed

to disturbances. These disturbances are not likely to show as a crisis of the dollar or the US financial markets but rather so that saving increases among the overindebted economic units in the United States. This would lead to a decrease in loan demand and asset prices as well as a slowdown of economic growth.

The position of the dollar as a reserve currency alleviates the problems of the United States. Therefore the United States does not carry significant international liquidity risk nor currency risk, for that matter, which is born by foreign investors, including central banks. Central banks need dollars in their reserves, and therefore it actually makes sense for the United States to run a slight deficit. Foreign nations get dollars only through US current account deficit or investments made abroad by Americans. The world needs dollars, but not in excess.

Despite the advantages provided by its currency, the United States must try to end its debt spiral in the next few years. However, the nation exhibits little willingness to tighten its fiscal and monetary policies in order to reach this goal. If domestic savings do not increase with the support of economic policy, bringing the increase of debt to an end will undoubtedly require a substantial weakening of the dollar. In this case one has to ask which currencies the dollar would weaken against. China, Japan and many other countries have so far taken measures to prevent their currencies from weakening significantly against the dollar.

In Europe there have been concerns that the floating euro would have to carry the whole burden. However, the share of the euro area in US foreign trade is in fact only about a fifth. This is about the same as China and Japan combined. Neighbouring Canada and Mexico account for about a third of US foreign trade alone.

The exchange rate of the dollar depends to a great extent on US economic policy. Significant weakening of the dollar would bring about price pressures, and the United States will probably want to maintain price stability. On the other hand, if the economy is in a weak state, policies may be biased to an expansionary end. Adding to the temptation is the fact that the damages of inflation and related weakening of the dollar would be partly born by foreign creditors as losses. The evaluation of Asian debt risks is uncertain because the economic culture differs from western nations. Furthermore, the Chinese financial system still remains regulated and is therefore not as vulnerable to sudden currency crises as it would be if the financial markets and foreign capital movements were free. The probability of crises emerging in Japan and China is also decreased by the fact that these countries are neither significantly in debt to abroad nor in foreign currencies.

The exchange rate of the dollar depends to a great extent on US economic policy.

It is possible that Asian currencies will strengthen against the dollar in the next few years, which would dampen international price competition from these countries at least for a while. The change in exchange rates may occur on purpose or decision makers will just have to cope with market pressures. However, the regulated Chinese market, in particular, may be able to withstand excessive liquidity and fixed exchange rates even for extended periods.

Key words: international finance, current account, indebtedness, liquidity

Will rapid growth in China continue?

27 October 2004

China has rapidly become one of the world's largest economies. Although its importance is expected to continue to increase, several factors also threaten China's economic development.

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Thanks to its rapid economic growth since 1978, China has become one of the world's most influential economies.[1] Average real GDP growth in China during 1978–2003 was 9.5% (Chart 1), and it is expected to become the world's largest economy within a couple of decades.

China is a major operator behind the world's current economic upswing. Partly due to its massive reprocessing sector China was, in 2003, the world's third largest trading country after the United States and Germany. Last year, its share of world trade growth accounted for 13%,[2] and 9% of EU's foreign trade is with China. For the United States and Japan, China is even more valuable, and China's role on the global commodity market is especially important. Moreover, it is the world's second largest consumer of crude oil, and approximately a third of all the steel produced in the world is used in China.

Despite this, China is still a developing country: in 2004, GDP per capita was less than EUR 1,000. Although attempts to reduce poverty have been successful, the World Bank estimates that in 2001, 47% of the Chinese still lived on less than USD 2 a day.[3]

Investment the driving force behind economic growth

The factors underlying China's economic growth have been both strong domestic demand and rapid export growth (Charts 1 and 2). In contrast to 1978, when exports accounted for 5%, last year exports represented as much as 31% of China's total output. However, the share of exports in China's economic development should not be overestimated. The majority of it is accounted for by reprocessing and assemblage with less value added for China than the export figures suggest. In addition, some 60% of China's exports are from companies that are partly or fully owned by foreigners, so a significant part of the proceeds flows abroad.

Investment has been an exceptionally powerful contributor to China's economic growth. In 2003, the rate of investment in China accounted for as much as 42% of GDP. An international comparison shows that the figure is extremely high, nearly twice that of the EU or the United States. Rapid investment growth over the last year or so has raised the price of several commodities, thereby leading to excessive demand for energy and

[1] China here refers to Continental China, in other words, the special administrative regions of Hong Kong and Macao are excluded. China's GDP for 2003 was approximately EUR 1,270 bn.

[2] IMF Direction of Trade Statistics (June 2004).

[3] World Bank Development Indicators 2004.

transport services. Production bottlenecks, the pickup in inflation and potential excess supply in certain sectors have been cause for concern to the Chinese government, which has endeavoured to slow down investment growth in many ways. In addition, the majority of investment has been made in publicly owned companies, a part of which are estimated to be very inefficient. In this situation, a large part of investment could turn out to be unprofitable.

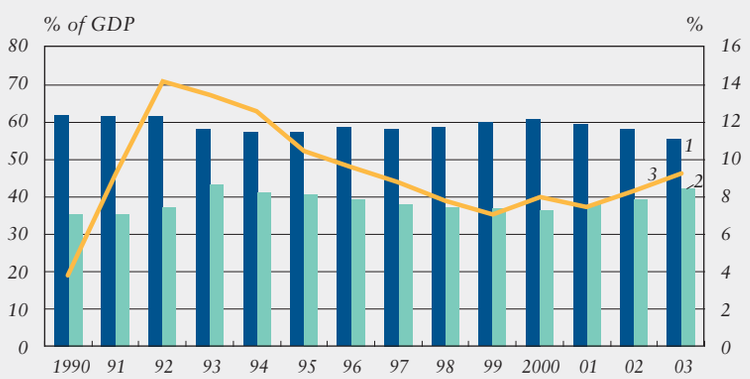
The role of domestic consumption as an underlying component of economic growth has also been important. Increases in households' real disposable income have boosted consumer demand rapidly, particularly in coastal regions.

Conditions for continued economic growth are good

Experts are practically unanimous in agreeing that China's economic growth will continue to be strong, at

Chart 1.

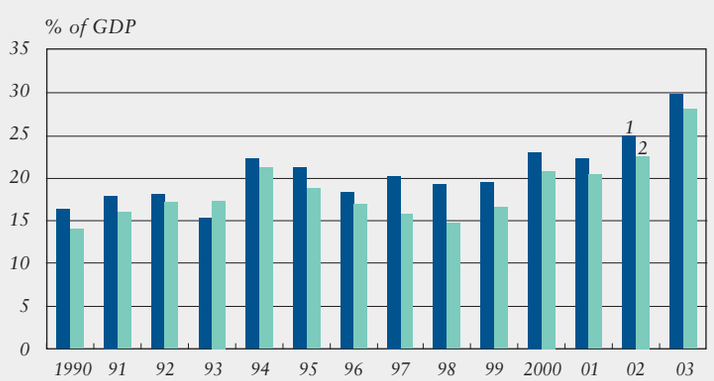
Total output, consumption and fixed investment in China



1. Consumption (LHS)
2. Investment (LHS)
3. Real GDP growth (RHS)
Source: China's statistics authorities.

Chart 2.

Foreign trade in China



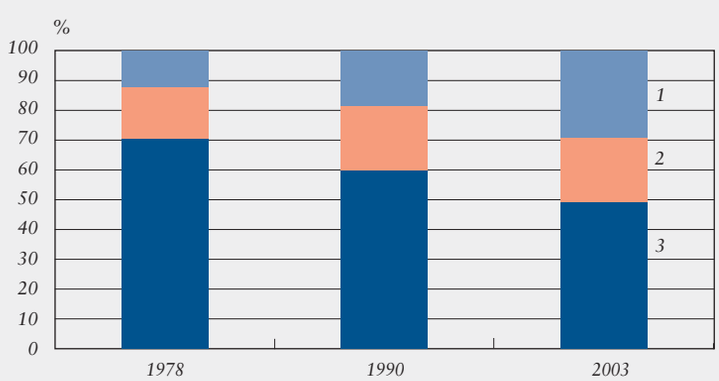
1. Exports
2. Imports
Source: China's statistics authorities.

least for the next 20 years. The expectations are based on the opportunities that exist for China to improve efficiency of its economy and increase output, particularly through the more effective allocation of its massive labour force. China is also expected to benefit from its increasing integration with the world economy.

The largest difference between China and other countries that have undergone periods of particularly rapid economic growth is the size of the population. More than 750 million of China's 1.3 billion population still live in the countryside, and a large proportion of them live in poverty. Up to 300 million people are still believed to be underemployed. Nearly half of the labour force is employed by the agricultural sector, which accounts for less than 15% of total output (Charts 3 and 4). Economic efficiency will improve as people move from the country to cities and begin to improve their

Chart 3.

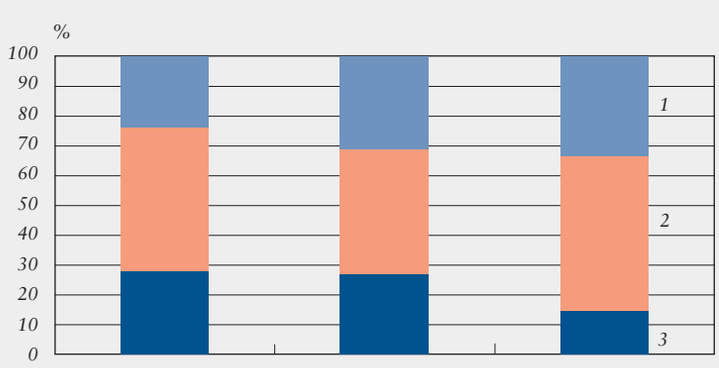
Employees by sector in China



1. Service sector
2. Industry and construction
3. Agriculture and other primary production
Source: Chinas's statistics authorities.

Chart 4.

Output by sector in China



1. Service sector
2. Industry and construction
3. Agriculture and other primary production
Source: Chinas's statistics authorities.

standard of living through more productive jobs, often in foreign-owned companies. Strong internal migration from the country to cities is expected to continue for at least another twenty years. In contrast to developments in other Asian countries, pay levels for the undereducated section of China's labour are expected to remain relatively low for quite some time, whereas salaries for the educated have increased for a number of years.

There are limits, even in China, to the supply of cheap labour.

Contrary to this overall estimate, news confirming shortages of labour have been received in recent months from the Pearl River Delta (Zhujiang) in southern China. The area is known for its vast number of reprocessing and assembly companies, many of which are in foreign ownership. According to a survey by the Chinese authorities in September, factories in the region suffer from a shortage of labour amounting to as many as 2 million people. Although the situation is unlikely to remain permanent, it implies that there are limits, even in China, to cheap labour supplies. The shortage of labour has mainly affected companies that pay their employees less than EUR 70 a month, while the average industrial pay in China is approximately EUR 100. The flow of migrant workers from the country to these low-pay companies has slowed down, as the level of income in the countryside has increased significantly during the last 12 months. Furthermore, China's other rapidly growing coastal regions are also competing for the same employees. Companies will therefore have to increase their pay in order to be able to attract enough labour from the countryside to factories.

Labour migration from the country to cities is hampered by the very poor position of migrant workers in Chinese society. If the volume of migrant workers, already approximately 100 million, is expected to increase, society will need to provide for their basic rights. It would be desirable if the perceived lack of labour in the most rapidly developing coastal regions were to translate into factories and the manufacturing industry moving further inland, where inexpensive labour is still available. This move would better balance developments between different regions.

Labour productivity is also enhanced by increasing education in China. The central government has significantly increased the number of employees with an academic degree. In contrast, an international comparison shows that China has allocated relatively very few funds for basic education.[4]

China's economic development is supported by the country's high savings ratio. Contrary to general opinion, China's exceptionally high investment ratio has so far been financed through domestic savings.

[4] World Bank Development Indicators 2004.

Furthermore, direct foreign investment in China over 2003 amounted to approximately EUR 50 billion. Nevertheless, its share of all investment remained below 10%. On the other hand, there are many reasons for foreign investment being more effective than domestic investment.

China is set to benefit from its increasing integration with the world economy. In December 2001, it joined the World Trade Organisation. As a result, it is gradually opening its market to foreign companies within the scope of the transitional periods negotiated as part of the membership procedure. This has also paved the way for Chinese companies to enter other markets. In effect, the progress of internationalisation is expected to provide a significant contribution to the Chinese economy. Several surveys show that already foreign companies' presence in China has tightened competition, which – in turn – has improved efficiency and productivity.[5] China is also highly active in seeking to effectively apply foreign companies' high-technology methods to its own production, thereby appearing to take advantage of its role as a catch-up economy. China's R&D expenditure is currently more than 1% of GDP, a fairly high proportion compared to other countries in the same revenue category. However, the majority of funding is obtained from the State, while Chinese companies' own R&D activity is still very modest.

Several serious problems need to be solved

China's economic development is also struggling with many challenges. Environmental and health-related concerns are already a hindrance to economic progress. The energy sector needs to be renewed and enlarged as in most Chinese regions factories have had to adjust their production to power failures during the last 12 months.

Furthermore, maintenance of social stability is a particularly demanding challenge for China. Income differences have increased rapidly over the last 25 years. In 2001, the World Bank's Gini index on income inequality, applied to per capita income in China, was 44.7. China was therefore ranked on the same level as Bolivia and Côte d'Ivoire (Ivory Coast).[6] Income differences appear in different forms in China: between coastal regions and the poor western provinces, between cities and the countryside, and within cities and the countryside. It is the present government's aim to improve the standard of living, especially in the countryside. Previously, attempts have not been made to stabilise regional differences in income distribution.

Maintenance of social stability is one of the challenges facing economic development in China.

[5] Several studies have been carried out on the impact of the WTO membership on China's economic development. For a conclusion, see "China's Growth and Integration into the World Economy", IMF (2004).

[6] World Bank Development Indicators 2004.

The vast number of nonperforming loans is problematic for China.

The government's objective is to increase total output by 7% annually. This is estimated as providing enough new jobs to ensure social stability. In addition to people in the country, jobs need be created for a large number of state-owned companies' current employees. Alongside a fairly efficient export sector, China still operates a very wide and inefficient domestic sector, encompassing more than 150,000 state-owned companies. In future years, the number of people employed by these companies will need to be reduced drastically. Although current official statistics indicate that the unemployment rate in the cities is only roughly more than 4%, in reality 10–15% of Chinese cities' labour force is estimated as being unemployed.

Social stability is also undermined by China's poor social security system, which is nearly nonexistent, especially in the country. The prospective rapid demographic change will pose massive challenges to the Chinese pension system. Nowadays only a small number of city people are covered by any form of social security, while in the country, offspring have traditionally provided for their parents. Over the next few decades, however, population ageing is set to advance rapidly as a result of the already partly-forgotten one-child policy, and children will no longer be able to provide for their parents.

Key to China's future economic development are relations between central and local government. In principle, central government has a great deal of power in relation to local government. In practice, however, there has been a power shift in favour of local governments, and the majority of local managers appear to treat central government instructions and regulations in an offhand manner. In January-August 2004, for example, investment subject to central government approval grew by only 4%, year on year, reflecting the central government's attempts to slow down investment growth. In contrast, investment subject to local government authorisation grew by as much as 26% in the same period. Partly this phenomenon is believed to be connected to corruption and the poor level of education of local government officials. It is vital for future economic development that there is an improvement in the quality of local government.

In international comparison, China's general government debt is small, accounting for about 20% of GDP. Relative to general government income, however, which was only 18% of GDP in 2003, general government debt is substantial. It is also likely to rise in the next few years due to financial institutions' nonperforming loans. The majority of China's banks are still state-owned, and have traditionally been an integral part of the political system. Loan decisions have often been made on grounds other than those determined

by the market, resulting in a large proportion of non-serviced loans. Nonperforming loans constitute a major problem for the entire economy, due to the vast size of China's banking sector. All bank loans now account for approximately 140% of GDP. According to official statistics, nonperforming loans now account for approximately 20% of GDP, but international credit rating agencies have estimated their real amount as being even twice that level.

All these threats make it difficult to give an accurate evaluation of China's future economic development. It would be highly exceptional in relation to other developing economies if the fast pace of growth would not be interrupted by any major cyclical slowdown. If, however, China succeeds in carrying out major structural changes, whilst maintaining social stability, circumstances for continued rapid economic growth are very good.

Key words: China, world economy, economic growth, macro economy

Monetary policy assumptions in central bank forecasts

9 December 2004

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Good monetary policy is always forward looking and forecasts are therefore a necessary input to monetary policy decisions. Forecasts become a means of providing a high degree of transparency, which in turn is seen as one of the essential prerequisites of successful monetary policy

Good monetary policy is always forward looking. There are two basic reasons for this. The first is that monetary policy actions only affect price developments and real activity with a time lag. The second reason is that policy makers generally want to avoid abrupt changes in the settings of policy instruments (such as the rate of interest) and prefer to act with a 'steady hand' instead. Both of these reasons imply that monetary policy should not be attuned only to the current economic situation, but should take into account the future as well. Forecasts, formal or informal, are therefore a necessary input to monetary policy decisions. The length of the relevant policy and forecast horizon cannot be exactly specified, but typically central banks use economic projections of about two years to assist their decision-making. Even longer term expectations and prospects are relevant as well, mainly because important asset prices and long term interest rates are determined by what markets expect to happen in the medium and long term, including their expectations about monetary policy.

Economic projections are used not only for internal policy planning, but they are also an increasingly important instrument of communication for monetary policy. Many central banks now publish their projections or forecasts of future economic conditions, even though the precise content and nature of these published outlooks varies a lot across banks. Among the central banks that do publish projections, forecasts or outlooks for inflation and other macroeconomic indicators are the ECB (publishing macroeconomic projections by the staff of the Eurosystem), the US Federal Reserve (economic projections by the members of the Federal Open Market Committee), Bank of Japan (forecast of the majority of the policy board members), the Bank of England (projections by the Monetary Policy Committee), and the central banks of Norway and Sweden. Inside the Eurosystem, many national central banks also publish projections of their home economy. The Bank of Finland is one of these.

The basic motivation for this publication activity is that a high degree of transparency is seen as one of the essential prerequisites of successful monetary policy. Transparency helps to reduce policy uncertainty on the part of the markets and the general public, and is also an important instrument for ensuring the accountability of central banks. Of

course, the decision making structures and the different formulations of policy targets have an impact on the authorship, status and content of the published projections. Nevertheless, they constitute an essential component in modern monetary policy frameworks.

In this article we consider one interesting problem in the design of monetary policy frameworks: the choice of policy assumptions on which economic projections are based. In practice this means selecting the path of short-term interest rates included in the projection. This is an important matter for both uses of economic projections in central banks: as an input to internal policy preparation, and as a vehicle of transparency and communication. We will, in particular, describe the reasons why the Bank of Finland has been using one particular policy assumption in its published forecasts of the Finnish economy, by assuming interest rates as expected by money market participants.

The issue at hand is particularly complex because interest rate assumptions in the projections of the central bank refer to the future actions of this agency itself. One can ask, therefore, whether the interest rate path included in such projection should be best interpreted as a forecast, a plan for future monetary policy action, or a technical assumption of some kind – and how these interpretations affect the nature of the entire projection and its usefulness in communication and policy planning. This is actually the central question in the choice of policy assumptions in economic projections of central banks.

Alternative monetary policy assumptions for economic projections

Alternative monetary policy assumptions for economic projections exist.

There are at least three interesting alternative monetary policy assumptions which can be used in these projections, and each of them is used presently by some central banks and international organisations.

– **The constant interest rate assumption**

In this first alternative, the projection is constructed on the assumption that short term interest rates will stay at the level prevailing at the time when the projection is made. The intuition behind this assumption is very clear as it is intended to serve as a 'no policy' benchmark case. The idea being that if the results from this projection are not compatible with monetary policy objectives (eg with price stability), some change in the short-term interest rate is called for. In this case, the need for policy action is defined in the sense of necessary interest rate changes compared to the present level. For example, if the constant interest rate projection were to predict too much inflation, then an interest rate increase would be required sooner or later.

Central banks use different assumptions in their forecasts.

Currently, this assumption is used in Eurosystem staff macroeconomic projections published by the ECB, for instance, and also by the central banks of Sweden and Hungary in their published forecasts. Most National Central Banks belonging to the Eurosystem also use this assumption in their own published forecasts for their home country, as these are typically conditional on the same assumptions as the joint projection exercises of the Eurosystem.

– The market expectations based assumption

In this second case, the projection is based on an estimate of what the private sector expects monetary policy to do. The estimate of private interest rate expectations can be derived from the forward interest rates prevailing in the money and capital markets and this path of short term interest expectations is used as the policy assumption in the projection. This kind of projection attempts to answer the question of what kind of future would result from a monetary policy which fulfils the currently prevailing market expectations.

It is of course quite possible that the outcome from this projection is not consistent with the central bank's policy objectives, especially if the private sector does not understand or believe the central banks policy goals. In that case, the need for policy action is defined in the sense of policy 'surprises' compared to the market expectations. For example, if this kind of projection results in too much inflation, it can be inferred that the markets need to be surprised by higher than expected interest rates, either immediately or some time in the future at least.

This assumption is currently employed by the central banks of the UK and Norway, for example. Among the national central banks belonging to the Eurosystem, the Bank of Finland has been using market expectations of interest rates in its published forecasts of the Finnish economy. These forecasts are prepared and published outside the joint Eurosystem forecast exercises.

– The goal consistent interest rate assumption

The two previous alternatives may lead to projections whose outcomes are not consistent with the objectives of monetary policy. One can also turn the projection exercise around and ask what kind of interest rates would be needed to achieve the policy goals of the central bank. This is our third case. The outcome of such a projection exercise would be, by definition, acceptable with respect to the macroeconomic variables (such as inflation) in terms of which policy goals are defined. The interest rate path resulting from this type of an exercise would indicate a kind of monetary policy programme for the future, although it is obvious that the path might be revised later in the

successive forecasting rounds as new information is incorporated in the analysis.

Actually, there are several different variants of goal-consistent projections, because there is generally a multitude of alternative interest rate paths consistent with a given outcome for inflation, for example. The reason for this is that future interest rate changes, if credible, can substitute for current interest rate changes. Let us consider the following three variants

i) *the goal-consistent constant interest rate*: this is the alternative often discussed in the theoretical monetary policy literature.[1] Here, the projection is made conditional on the fixed level of the short term rate that produces an inflation outcome consistent with the goal of price stability. The policy implication of the projection is that the interest rate should be adjusted to the level indicated.

ii) *the interest rate path produced by some mechanical interest rate rule,* such as the famous Taylor rule, which guarantees the attainment of policy goals at least in the medium to long run. The rule is used as a 'technical assumption' meaning that the central bank does not commit itself to following the precise interest rate path produced by the rule. The rule-based approach leads to projections consistent with what theorists call flexible inflation targeting, where the real economic situation (as measured by the 'output gap', for example) is taken into account in setting the interest rate and usually results in a gradualist adjustment of the interest rate. For policy makers, the interest rate path in kind of projection can serve as a benchmark. Actual policy choices may of course differ from the projected path, depending on how the preferences of the policy makers in the given situation compare with the properties of the mechanical rule.

This approach is employed by the central banks of Canada, the Czech Republic, and New Zealand, for example, although the Bank of Canada has not published the precise interest rates which are used in its projections. Among international organisations, the European Commission, the International Monetary Fund and the OECD assume in their forecasts that monetary policy in major economies is set so as to achieve the stated policy objectives in each country.

iii) *the decision-maker's own forecast of the interest rate path,* given all current information. In this approach, the assessment of the monetary policy decision maker concerning appropriate policy is included in the forecast. This kind of forecast is actually not so much an

[1] See eg Kai Leitemo (2003): Targeting Inflation by Constant Interest Rate Forecasts, Journal of Money, Credit, and Banking vol. 35, pp. 609–626, and Seppo Honkapohja and Kaushik Mitra (2003): Performance of Inflation Targeting Based on Constant Interest Rate Projections, CEPR Discussion Paper No. 4126, and the literature referred to in these contributions.

input to the policy making process but instead a communication vehicle, enabling the decision makers to present their view of the future as they see it, with the effects of their policy choices included. These forecasts thus contain information not only on how the policy makers see the future economic environment but also on the policy makers' own preferences. For this reason, they could be especially useful for banks whose mandates are not defined in terms of a single policy objective, who consequently need to communicate how they balance these objectives.

The Bank of Finland uses the assumption of market expectations of short term interest rates for the reasons of accuracy and consistency.

The US Federal Reserve and the Bank of Japan come closest to using this approach. They publish summaries of 'unconditional' forecasts of the members of their policy making bodies. 'Unconditional' means that the forecasts are presented as the most likely future outcomes, implicitly including the most likely monetary policy.[2] However, neither of these institutions discloses quantitative information of the interest rate paths expected by the policy makers themselves.

Each of these approaches has its own particular advantages and drawbacks. The Bank of Finland has been using the assumption of market expectations of short term interest rates for the reasons of accuracy and consistency. We now turn to consider the logic behind this particular assumption in some more detail.

The advantages of the market expectations assumption

One of the advantages of assuming interest rates as expected by the markets is that this practice allows the forecasters to utilise the broadest range of economic information, in order to make as accurate projections as possible. In practice, forecasters do not want to restrict their view of the economic situation to the limited number of variables included in their models, but seek to incorporate in their work information from all available indicators, qualitative or 'soft' as well as quantitative or 'hard'. These diverse sources of information include various surveys of business confidence and households' spending plans; surveys of inflation expectations, and even casual information of investment plans and wage negotiations etc. This kind of extraneous information helps in the forecasting process, but it also necessarily reflects the prevailing private expectations of future monetary policy in general, and expected future interest rates in particular. Therefore, strictly speaking, it is only compatible with projections which are made under the assumption of expected short term interest rates. Its use in projections made under some other assumption (such as constant interest rates) could lead to distorted results.

[2] See pp. 15–16 in J. Tarkka and D. Mayes, 'The value of publishing official central bank forecasts', *Bank of Finland Bulletin*, vol. 74 (1), pp. 13–20, 2000.

The issue of consistency has also to do with expectations. The question here is what should be assumed about the development of private expectations in the projection. This is a very important issue, because economic behaviour is to a very large extent dependent on expectations of income, price, and interest rate developments. Expectations may be far more important for behaviour than current economic conditions. Modern macroeconomic simulation models also make it possible for economists to work with different hypotheses on how private expectations are formed. Actually, the dynamic general equilibrium models of today force the economists using them to specify their hypotheses of expectations formation. This is in contrast to the previous generation of models, where expectations formation was implicit, embedded in statistical regularities which may not be invariant to policy alternatives.[3]

One possible solution is to work under the assumption of consistent expectations, so that private expectations of future interest rates assumed in the projection coincide with the forecasting assumption of the interest rate made by the forecaster. This makes the projection internally consistent. With modern modelling techniques, this kind of consistency is possible to achieve under many kinds of interest rate assumptions, including the alternatives reviewed earlier in this article.

However, there is also another consistency issue, namely the consistency of the projection with the asset prices and long term interest rates which prevail at the time when the forecast is made. The only way to make a projection which is not only consistent with itself, but also consistent with observed asset prices and long term interest rates is to make it under the assumption that interest rates behave as currently expected by the markets. Under any other assumption, like the constant interest rate assumption, one has to give up either the consistency of expectations assumed in the projection, or the consistency of the projection with the asset prices prevailing when the forecast is made.

These quite intricate accuracy and consistency considerations make the market expectations alternative an attractive choice as the monetary policy assumption in economic projections, in that it enables complete consistency. A third advantage it holds is that it constitutes an easily explainable technical assumption and should therefore help avoid the dangerous misinterpretation that the projected interest path is a plan or commitment of any kind by the central bank. This advantage is actually shared by both the market expectations assumption and the constant interest rate assumption. It is also one of the advantages the market expecta-

Economic behaviour is to a very large extent dependent on expectations of income, price, and interest rate developments.

[3] This is the well-known Lucas critique.

tions assumption has over the 'optimal' or rule-based policy assumptions. These alternatives could more easily be seen as pre-empting the choice which should be with the responsible policy making bodies.

What are the possible drawbacks of using observed market expectations as the basis of economic projection? Two problems arise if it turns out that the results of the projection show that the expected policy is not the one preferred by the central bank itself. The first is more a limitation than a drawback: these kinds of projections do not give a direct indication of exactly how policy should deviate from the expectations of the market. This is left to the decision makers as users of the projections, even though the deviations of projected economic outcomes from the bank's policy targets should contain essential information for monetary policy decisions. The second problem is that if the market-based assumption about monetary policy does not coincide with the preferences of the central bank, and then the bank as policy maker opts for a different policy from the expected, the projection is no longer verifiable *ex post* by comparing to what will actually happen. The accuracy of a forecast whose assumptions are technical in the sense that they do not represent the 'best guess' of the forecasting institution is, strictly speaking, not commensurate with so-called 'unconditional' forecasts where all components are chosen to maximise forecasting accuracy.

The way of macroeconomic projections should be made is an increasingly timely issue.

Conclusions

The way macroeconomic projections should be made is an increasingly timely issue for two reasons: the increased use of projections and forecasts by central banks as a vehicle for monetary policy communication, and the rapid development of macroeconomic modelling techniques which has made economists and policy makers increasingly aware of the importance of certain problems in making the projections. Probably the most important of these is how the interaction of policy assumptions and expectations formation should be best treated in macroeconomic projections by central banks. In this article we have argued for taking the technical assumption that monetary policy behaves as expected by the markets as the benchmark. This approach, we suggest, offers a reasonable combination of predictive power, internal and external consistency, and informative value for policy making. It is also the approach used by the Bank of Finland in its own independent forecasts of the Finnish economy.

The above mentioned potential problems with market expectations-based assumption of interest rates have not prevented several central banks from using them successfully both to inform policy and to communicate with the public. They are even

less serious in the case of projections concerning only one country within a monetary union – such as Finland as a member of the EMU – and market expectations are thus at present considered by the Bank of Finland as the most workable basis for its macro-economic projections.

Key words: monetary policy, forecasts, projections, interest rate, assumptions

Recent Bank of Finland research publications

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Series A

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Rahoitusmarkkinoiden integraatio (Financial integration)
Heikki Koskenkylä (ed.)
A:107
ISBN 952-462-142-8, print
ISBN 952-462-143-6, online

Key words: financial markets, integration, clearing and settlement systems, structural change, regulation and supervision, stability

Financial integration is key to the European Union's growth and competitive strategies – part of the Lisbon Strategy – which aims at raising the EU to be the most competitive economic area in the world. A European Commission report states that the growth and employment effects of broadening and deepening integration will be considerable. The effects will be seen in household and companies' access to both financing and other financial services at rates below those of today and from a broader and more reliable array of services

Financial integration has advanced varyingly, hastened by market forces, technological development and the euro. Authorities play a crucial role in both the promotion of integration and stability, the maintenance of confidence in financial market activities, improved consumer protection, prevention of criminal misuse of the financial system and promotion of competitiveness.

Integration is most advanced in the European debt markets and in the wholesale market for short-term debt instruments. Development within the retail banking sector has been slower. Households and small and medium-sized companies are still modest users of cross-border financial services. Infrastructures already in place in financial markets, concerning large-value payments, operate effectively and reliably at the cross-border level. Systems handling small-value payments still must be improved in order to provide as rapid and reasonably-priced transfer of payments across international borders as now happens with domestic transfers. Cross-border securities clearing and settlement continues to be inefficient and expensive. However many EU-level fora are looking to solve the perceived shortcomings in access to cross-border financial services and trade.

The European Commission has actively furthered financial market integration, as too the ECB and the ESCB, both of which have made efforts to influence the development of an internal market within the financial markets, leading to close cooperation between the European Commission, European Council and ESCB.

Discussion Papers

ISSN 0785-3572 (print)
ISSN 1456-6184 (online)

Large value payment systems – principles and recent and future developments
Timo Iivarinen
13/2004
ISBN 952-462-144-4, print
ISBN 952-462-145-2, online

Key words: payment systems, trends, RTGS systems, large-value payments

The present European large-value payment systems are on the verge of noteworthy change. Since they comprise the backbone or basic infrastructure of the whole economy, it is important that the changes are monitored and carried out in a highly prudent manner. This paper attempts to analyse this change and provide an understanding of where we stand today and outline some possible prospects. The large-value

payment systems are described and analysed in general terms. For the sake of comparison some important large-value payment systems outside Europe are also examined.

It seems that there will be significant changes in the payment systems industry in the near future. Options for many areas are still open but some trends are visible. These trends are: economic integration, increasing pressure from the EU and the regulators to form a single domestic market across the whole EU area, a rapidly changing regulatory environment, rapid development of IT, outsourcing of the payment system value chain, increasing emphasis on customer point of view and efficiency. Furthermore, the border line between large and small value payments could become blurred, TARGET2 brings considerable changes to the present situation, the scope of CLS should be extended, and the SWIFT system will become the industry standard both in cross-border and domestic payments. These developments in the EU might mean, from the Finnish point of view, that the development in several places could go backwards.

Asymmetric information in credit markets and entrepreneurial risk taking

Timo Vesala

14/2004
ISBN 952-462-146-0, print
ISBN 952-462-147-9, online

Key words: credit market, asymmetric information, search, risk taking

The paper constructs a search-theoretic model of credit markets with a bilateral trading mechanism that enables the manageable introduction of asymmetric information. Borrowers' success probabilities are unobservable to financiers, but the degree of risk in observable projects can be used as a sorting device. We find that the efficiency of a perfect Bayesian equilibrium depends negatively/positively on the credit market 'tightness'/liquidity. In general equilibrium, where the underlying market conditions are endogenously determined, steady states with greater credit market tightness are always associated with increasingly excessive investment in risky projects. Since tighter market conditions also imply less intense competition among financiers, the commonly asserted trade-off between competition and efficiency does not emerge. Tighter monetary policy is shown to worsen the adverse effect of informational frictions on efficiency.

The anticipated and concurring effects of the EMU: exchange rate volatility, institutions and growth

Michele Bagella – Leonardo Becchetti – Iftekhar Hasan

15/2004
ISBN 952-462-148-7, print
ISBN 952-462-149-5, online

Key words: real exchange rate, volatility, institutional rules, macroeconomic policy

Reduced exchange rate volatility and higher and less heterogeneous quality of institutional rules and macroeconomic policies are two of the main (anticipated and concurring) effects expected from a currency union.

In this paper we measure the magnitude of these two effects on the euro area countries, looking at real effective exchange rates (REER) and at different indicators of quality of institutional rules and macroeconomic policies (QIRMP). We find that the first effect is much stronger than the second when we compare relative changes on euro area countries and the rest of the world in the relevant period.

We further evaluate the impact of both effects on economic growth on a larger sample of countries. Our findings show that both have significant impact on levels (more robust) and on rates of growth (weaker) of per capita GDP.

The use of real time information in Phillips curve relationships for the euro area
Maritta Paloviita – David G. Mayes
16/2004
ISBN 952-462-150-9, print
ISBN 952-462-151-7, online

Key words: real-time data, Phillips curve, euro area

The dynamics of the Phillips Curve in New Keynesian, Expectations Augmented and Hybrid forms are extremely sensitive to the choice, timing and restrictions on variables. An important element of the debate revolves around what information decision-makers took into account at the time and around what they thought was going to happen in the future. The original debate was conducted using up-to-date, revised estimates of the data as in the most recent official publications. In this paper, however, we explore how much three aspects of the specification of the information available at the time affect the performance of the various Phillips curves and the choice of the most appropriate dynamic structures. First we consider the performance of forecasts, published at the time, as representations of expectations. Second, we explore the impact of using 'real time data' in the sense of what were the most recently available estimates of the then present and past. Finally we review whether it helps to use the information that was available at the time in the choice of instruments in the estimation of the relationships rather than the most up-to-date estimate of the data series that has been published. Thus different datasets are required in the instrument set for every time period. We use a single consistent source for 'real-time' data on the past, estimates of the present and forecasts, from OECD Economic Outlook and National Accounts. We set this up as a panel for the euro area countries covering the period since 1977. Our principal conclusions are (1) that the most important use of real time information in the estimation of the Phillips curve is in using forecasts made at the time to represent expectations; (2) real time data indicate that the balance of expectations formation was more forward than backward-looking; (3) by contrast using the most recent, revised, data suggests more backward-looking and less well-determined behaviour.

The efficiency implications of financial conglomeration
Ville Mälkönen
17/2004
ISBN 952-462-152-5, print
ISBN 952-462-153-3, online

Key words: financial conglomerates, banking, insurance, capital regulation

This paper studies the competitive and efficiency implications of financial conglomeration driven by cost-efficiency gains in monitoring credit and insurance customers. The analysis shows that conglomeration is conducive to tougher competition in the credit market and increases profit in insurance. The aggregate profit in the financial sector does not increase, because the conglomerates pass the cost-efficiency gains on to the borrowers in full. More competitive market for financial services also reduces the aggregate risk in the financial markets, indicating that capital requirements in both sectors should be lower in the presence of financial conglomerates

Macro stress testing with a macroeconomic credit risk model for Finland
Kimmo Virolainen
18/2004
ISBN 952-462-154-1, print
ISBN 952-462-155-X, online

Key words: banking, credit risk, stress tests

In the discussion paper, we employ data on industry-specific corporate sector bankruptcies over the time period from 1986 to 2003 and

estimate a macroeconomic credit risk model for the Finnish corporate sector. The sample period includes a severe recession with significantly higher-than-average default rates in the early 1990s. The results suggest a significant relationship between corporate sector default rates and key macroeconomic factors including GDP, interest rates and corporate indebtedness. The estimated model is employed to analyse corporate credit risks conditional on current macroeconomic conditions. Furthermore, the paper presents some examples of applying the model to macro stress testing, ie analysing the effects of various adverse macroeconomic events on the banks' credit risks stemming from the corporate sector. The results of the stress tests suggest that Finnish corporate sector credit risks are fairly limited in the current macroeconomic environment.

Expectational business cycles
Eran A. Guse
19/2004
ISBN 952-462-156-8, print
ISBN 952-462-157-6, online

Key words: adaptive learning, aggregate fluctuations, heterogeneous expectations, multiple equilibria, rational expectations

I introduce Expectational Business Cycles where aggregate activity fluctuates due to learning, heterogeneous updating rules and random changes in the social norm predictor. Agents use one of two updating rules to learn the equilibrium values while heterogeneity is dictated via an evolutionary process. Uncertainty of a new equilibrium, due to a shock to the structure of the economy, results in a sudden decrease in output. As agents learn the equilibrium, output slowly increases to its equilibrium value. These business cycles arrive faster, are longer and more severe as agents possess less rationality.

Monetary consequences of alternative fiscal policy rules
Jukka Railavo
20/2004
ISBN 952-462-158-4, print
ISBN 952-462-159-2, online

Key words: inflation, optimal monetary policy, fiscal policy, policy coordination

In this paper we analyse the monetary impact of alternative fiscal policy rules using debt and deficit, both mentioned as measures of fiscal policy performance in the Stability and Growth Pact (SGP). We use a New Keynesian model, with endogenous labour supply, distortionary taxation and no private capital. The economy is hit by two fundamental shocks: demand and supply shocks, which are orthogonal to each other. Monetary policy is conducted by an independent central bank that will optimise. Under discretionary monetary policy the size of the inflation bias depends on the fiscal policy regime. Using the timeless perspective approach to precommitment, output persistence increase compared to the discretionary case. The result holds with the alternative fiscal policy rules, and inflation and output persistence reflects the economic data. With the deficit rules, the autocorrelation of the tax rate is near unity irrespective of the monetary policy regime, and irrespective of the fiscal policy parameters and targets.

Inflation dynamics in the euro area and the role of expectations: further results
Maritta Paloviita
21/2004
ISBN 952-462-160-6, print
ISBN 952-462-161-4, online

Key words: Phillips curve, expectations, euro area

This paper examines the empirical performance of the New Keynesian Phillips curve and its hybrid specification in the euro area. Instead of imposing

rational expectations, direct measures, ie OECD forecasts, are used as empirical proxies for economic agents' inflation expectations. Real marginal costs are proxied by three different measures. The results suggest that OECD inflation forecasts perform relatively well as a proxy for inflation expectations in the euro area, since under this approach the European inflation process can be modelled using the forward-looking New Keynesian Phillips curve. However, inflation can be modelled even more accurately by the hybrid Phillips curve. Thus, even allowing for possible non-rationality in expectations, the additional lagged inflation term is needed in the New Keynesian Phillips relation. In this approach, the output gap turns out to be at least as a good a proxy for real marginal costs as the labour income share. Moreover, the inflation process seems to have become more forward-looking in the recent years of low and stable inflation.

Labour market reform and the sustainability of exchange rate pegs

Olli Castrén – Tuomas Takalo – Geoffrey Wood
22/2004
ISBN 952-462-166-5, print
ISBN 952-462-167-3, online

Key words: exchange rate policy, labour market flexibility, structural reform

It is commonly thought that an open economy can accommodate output shocks through either exchange rate or real sector adjustments. We formalise this notion by incorporating labour market rigidities into an 'escape clause' model of currency crises. We show that the absence of structural reform makes a currency peg more fragile and undermines the credibility of the monetary authority in a dynamic setting. The fragility is captured by a devaluation premium in expectations that increases the average inflation rate when the currency peg is more vulnerable to 'busts' than 'booms'. This interaction between macroeconomic and microeconomic rigidities suggests that a policy reform can only be consistent if it renders either exchange rates or labour markets flexible.

Heterogeneous information about the term structure, least-squares learning and optimal rules for inflation targeting

Eric Schaling – Sylvester Eijffinger – Mewael Tesfaselassie
23/2004
ISBN 952-462-168-1, print
ISBN 952-462-168-X, online

Key words: learning, rational expectations, separation principle, Kalman filter, term structure of interest rates

In this paper we incorporate the term structure of interest rates into a standard inflation forecast targeting framework. Learning about the transmission process of monetary policy is introduced by having heterogeneous agents – ie central bank and private agents – who have different information sets about the future sequence of short-term interest rates. We analyse inflation forecast targeting in two environments. One in which the central bank has perfect knowledge, in the sense that it understands and observes the process by which private sector interest rate expectations are generated, and one in which the central bank has imperfect knowledge. In the case of imperfect knowledge, the central bank has to learn about private sector interest rate expectations, as the latter affect the impact of monetary policy through the expectations theory of the term structure of interest rates. Here, following Evans and Honkapohja (2001), the learning scheme we investigate is that of least-squares learning (recursive OLS) using the Kalman filter. We find that optimal monetary policy under learning is a policy that separates estimation and control. Therefore, this model suggests that the practical relevance of the breakdown of the separation principle and the need for experimentation in policy may be limited.

BOFIT Discussion Papers

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An abnormal country
Steven Rosefielde
15/2004
ISBN 951-686-974-2, print
ISBN 951-686-975-0 , online

Key words: Russia, transition, welfare

Andrei Shleifer and Daniel Treisman recently rendered a summary verdict on the post-Soviet Russian transition experience finding that the Federation had become a normal country with the west's assistance, and predicting that it would liberalise and develop further like other successful nations of its type. This essay demonstrates that they are mistaken. It shows factually, and on the norms elaborated by Pareto, Arrow and Bergson that Russia is an abnormal political economy unlikely to democratise, westernise or embrace free enterprise any time soon.

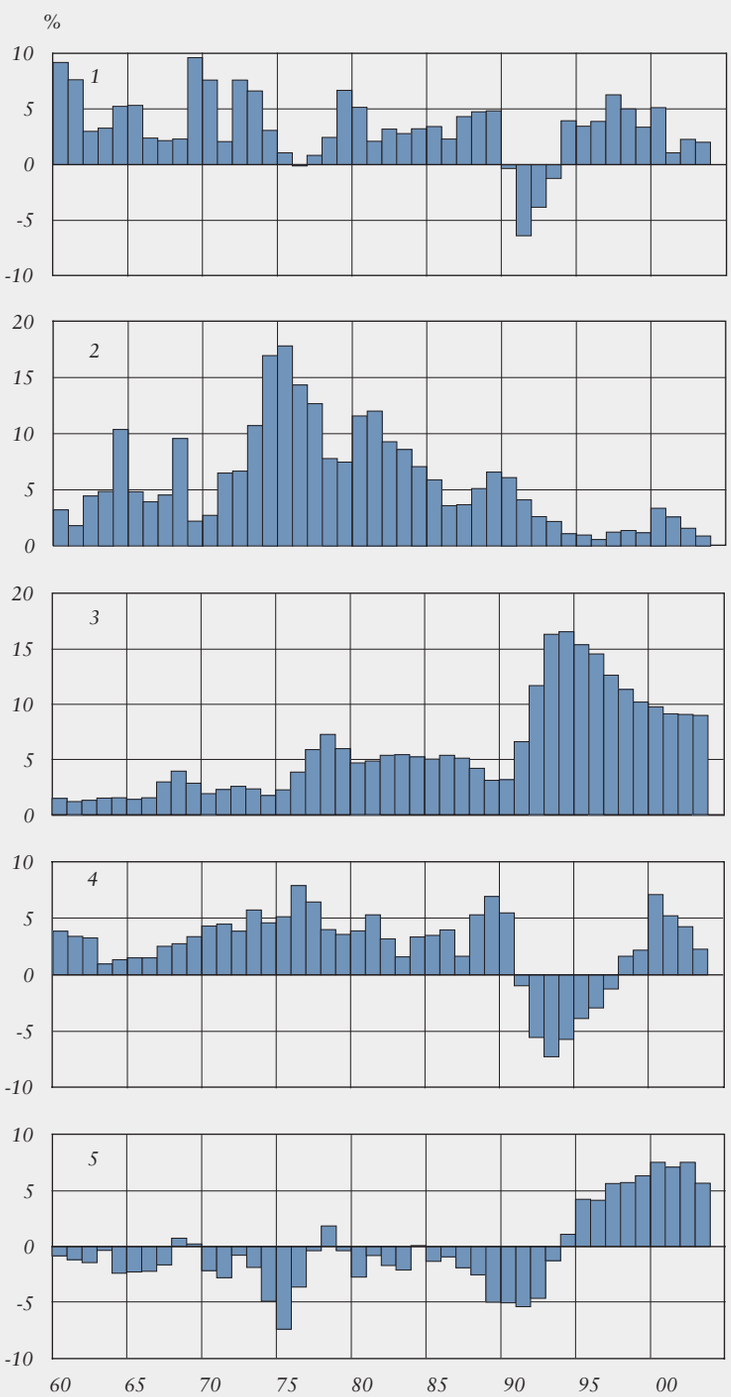
Selecting inflation indicators under an inflation targeting regime: evidence from the MCL method
Juha-Pekka Koskinen – Tuuli Koivu – Abdur Chowdhury
16/2004
ISBN 951-686-976-9, print
ISBN 951-686-977-7, online

Key words: inflation, Poland, MCL method

This paper seeks to fill a gap in the literature by analysing inflation in Poland, one of only two transition economies that have adopted a strict inflation-targeting policy. The paper also introduces a new method for selecting inflation indicators. Consistent with earlier literature, empirical results find a strong link between the producer price index and consumer price index in Poland. This shows the importance of the manufacturing sector in determining the price level in the country. Overall, wages, broad money supply and the exchange rate are good indicators of inflation.

Charts

1. Finland: key economic indicators



GDP, volume change from previous year

Consumer prices, change from previous year

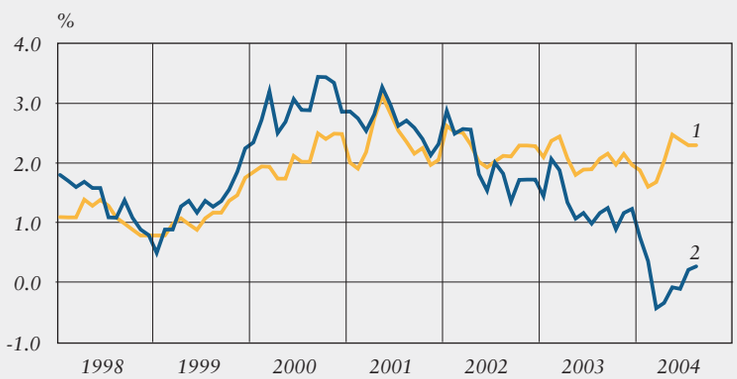
Unemployment rate

General government fiscal position, % of GDP

Current account, % of GDP

Sources: Statistics Finland and Bank of Finland.

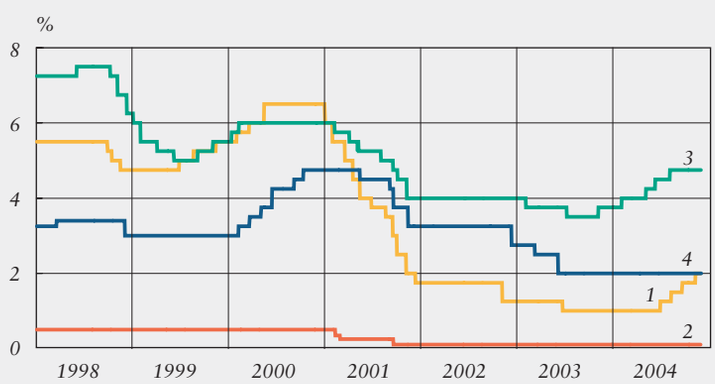
2. Price stability in the euro area and Finland



Harmonised index of consumer prices, 12-month change, %
1. *Euro area*
2. *Finland*

Sources: Eurostat and Statistics Finland.

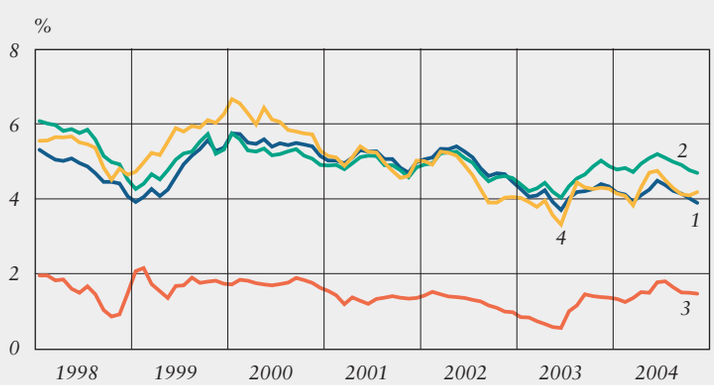
3. Official interest rates



1. *USA: fed funds target rate*
2. *Japan: discount rate*
3. *United Kingdom: repo rate*
4. *Eurosystem: main refinancing rate/minimum bid rate (Bank of Finland tender rate)*

Source: Bloomberg.

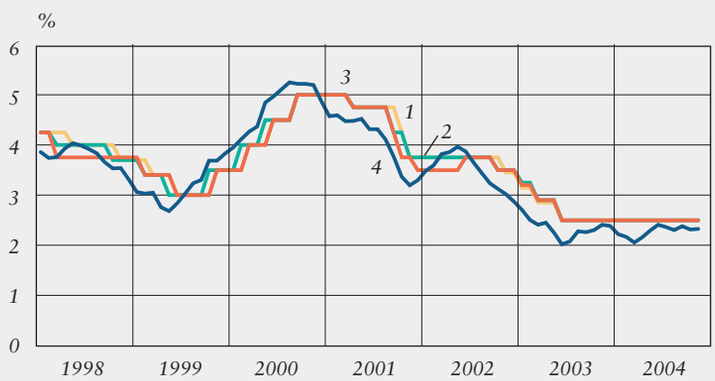
4. International long-term interest rates



Yields on ten-year government bonds
1. *Finland*
2. *United Kingdom*
3. *Japan*
4. *United States*

Source: Reuters.

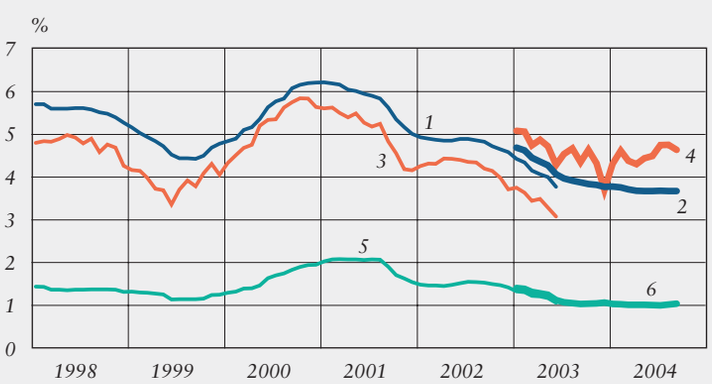
5. Bank reference rates in Finland and 12-month Euribor



1. *Nordea prime at the end of the month*
2. *Sampo prime at the end of the month*
3. *OKOBANK group prime at the end of the month*
4. *12-month Euribor (Helibor until end-1998)*

Sources: Banks and ECB.

6. Average lending and deposit rates

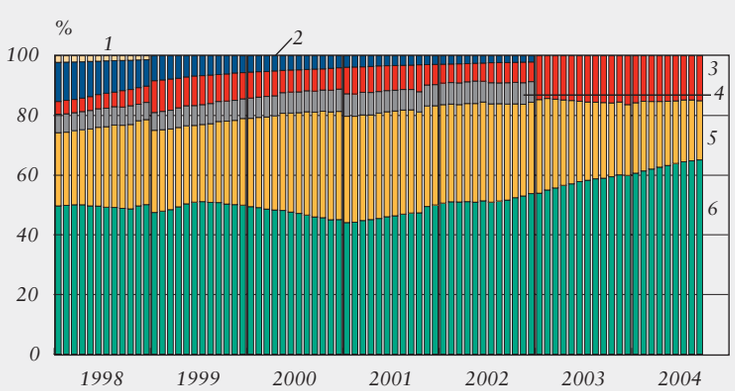


1. *Banks' stock of loans*
2. *MFIs' stock of loans*
3. *Banks' new loans*
4. *MFIs' new loans*
5. *Banks' stock of deposits*
6. *MFIs' stock of deposits*

Source: Bank of Finland.

Data collection changed as of 1 January 2003. Under the new system MFIs include both deposit banks and other credit institutions.

7. Stock of bank lending by interest rate linkage

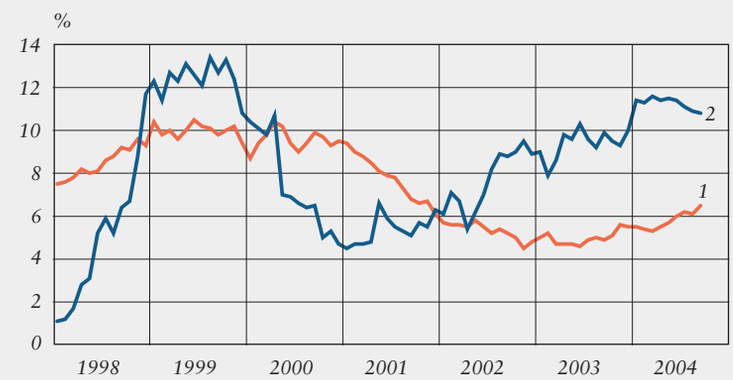


1. *Linked to 3 and 5-year reference rates*
2. *Linked to base rate*
3. *Linked to other rates (as of 2003 includes loans linked to base rate and fixed-rate loans)*
4. *Fixed-rate*
5. *Linked to reference rates of individual banks (prime rates, etc)*
6. *Linked to Euribor (Helibor until end-1998)*

Source: Bank of Finland.

Data collection changed as of 1 January 2003.

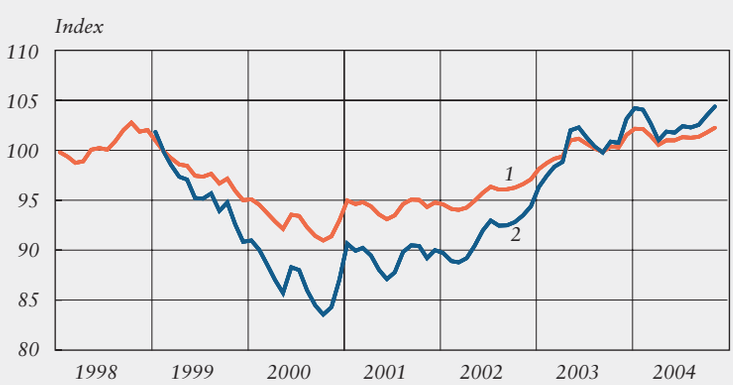
8. MFI loans to private sector



12-month change, %
1. *Loans by euro area MFIs to euro area residents*
2. *Loans by Finnish MFIs to euro area residents*

Sources: European Central Bank and Bank of Finland.

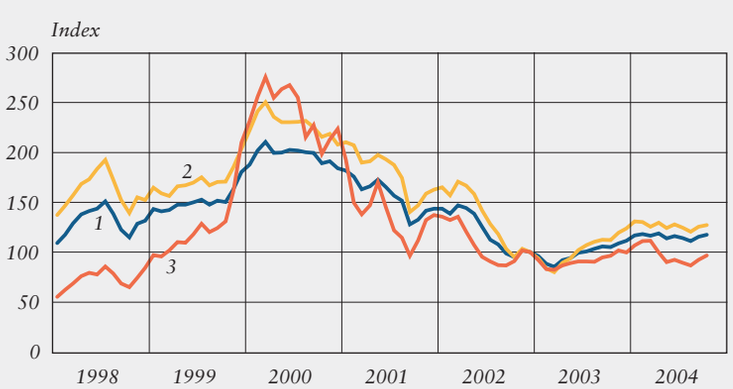
9. Competitiveness indicators for Finland



1999 Q1 = 100
Based on trade-weighted exchange rates.
An upward movement of the index represents a weakening in Finnish competitiveness.
1. *Narrow competitiveness indicator including euro area countries*
2. *Narrow competitiveness indicator*

Source: Bank of Finland.

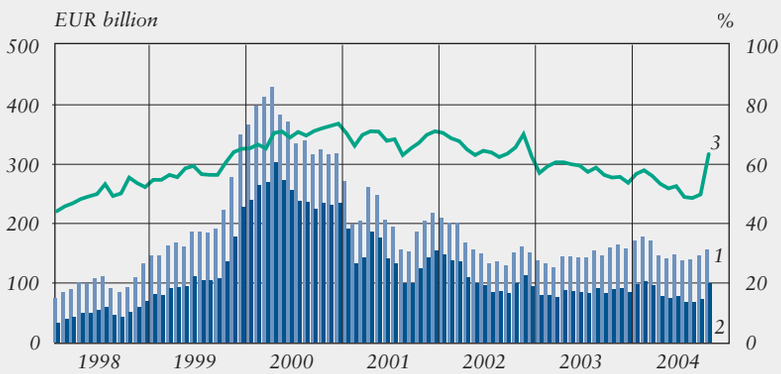
10. Selected stock price indices in the euro area



31 December 2002 = 100
1. *Total euro area: Dow Jones Euro Stoxx index*
2. *Germany: DAX index*
3. *Finland: HEX all-share index*

Sources: Bloomberg and HEX Helsinki Exchanges.

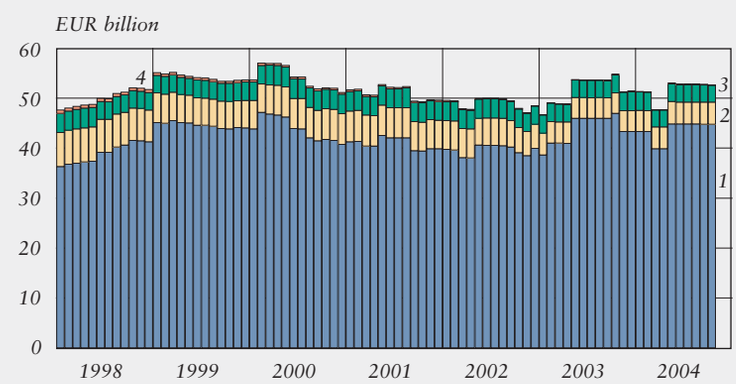
11. Listed shares in Finland: total market capitalisation and non-residents' holdings



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

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

12. Bonds issued in Finland

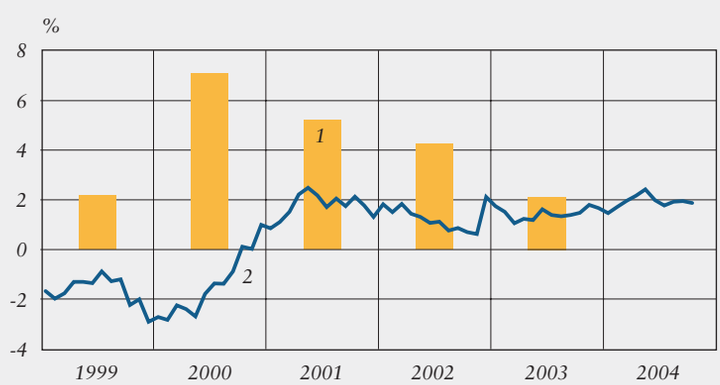


End-month stock

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

Source: Statistics Finland.

13. Public sector balances in Finland

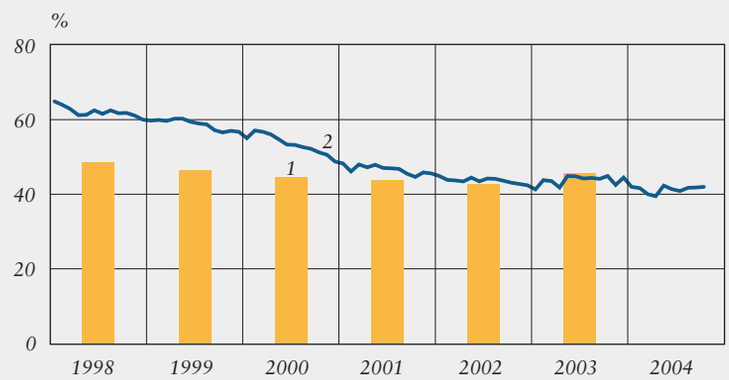


% of GDP

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

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

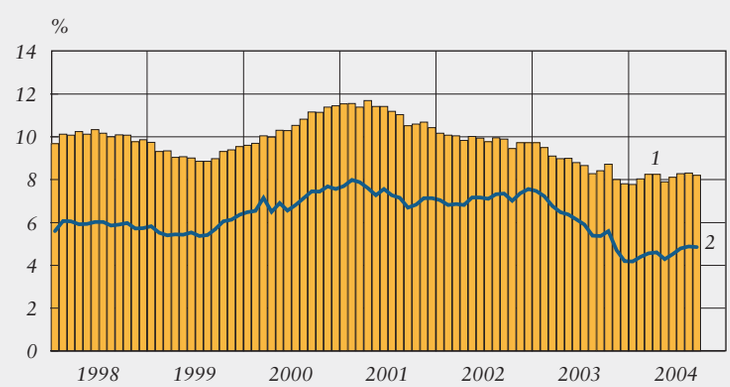
14. Public debt in Finland



% of GDP
1. *General government debt*
2. *Central government debt, 12-month moving total*

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

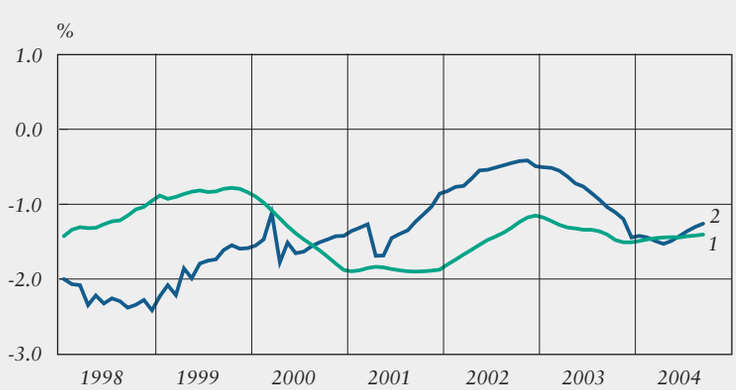
15. Finland: goods account and current account



12-month moving totals, % of GDP
1. *Goods account, fob*
2. *Current account*

Source: Bank of Finland.

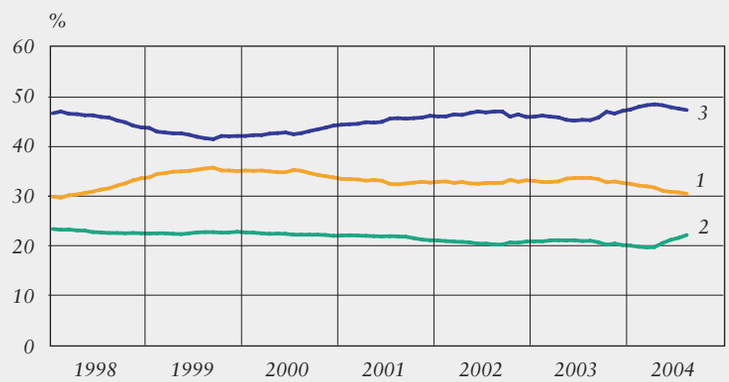
16. Finland: services account and income account



12-month moving totals, % of GDP
1. *Services account (trade in goods, fob)*
2. *Income account*

Source: Bank of Finland.

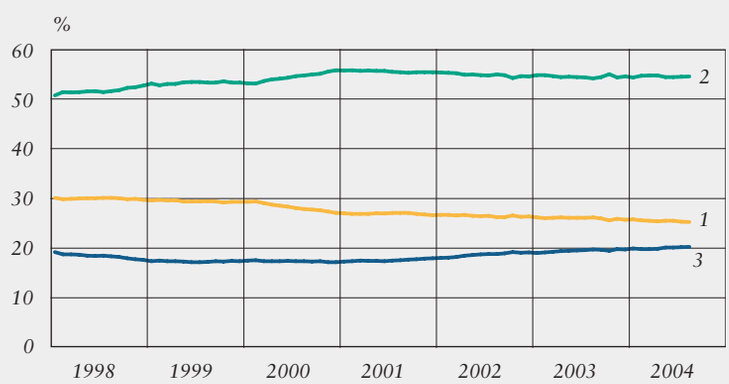
17. Regional distribution of Finnish exports



12-month moving totals, percentage of total exports
1. *Euro area*
2. *Other EU member states*
3. *Rest of world*

Sources: National Board of Customs and Statistics Finland.

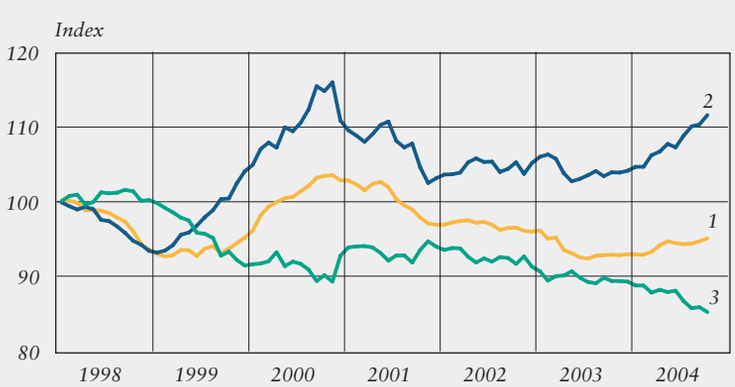
18. Finnish exports by industry



12-month moving totals, percentage of total exports
1. *Forest industries*
2. *Metal and engineering industries (incl. electronics)*
3. *Other industry*

Source: National Board of Customs.

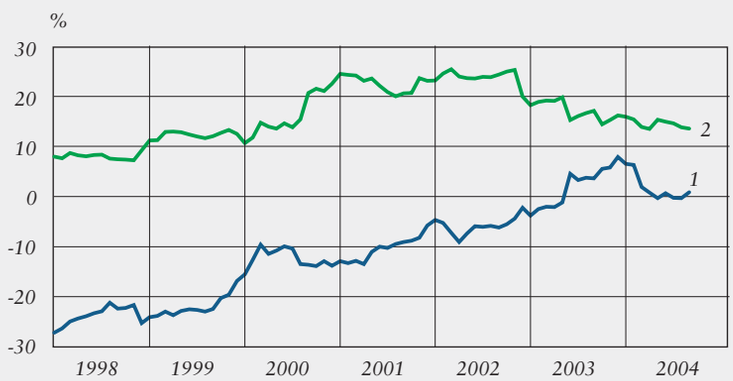
19. Finland's foreign trade: export prices, import prices and terms of trade



1995 = 100
1. *Export prices*
2. *Import prices*
3. *Terms of trade*

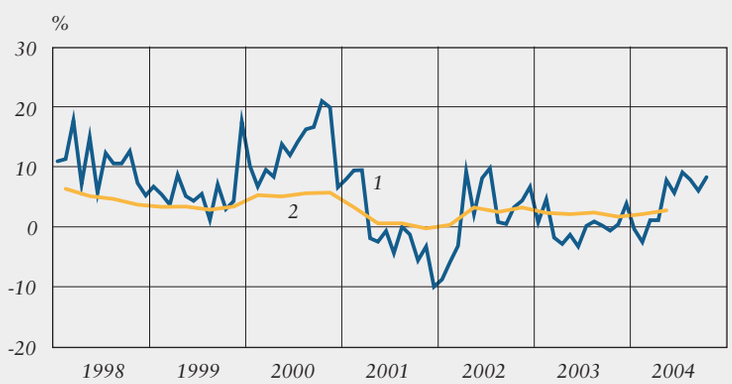
Source: Statistics Finland.

20. Finland's net international investment position



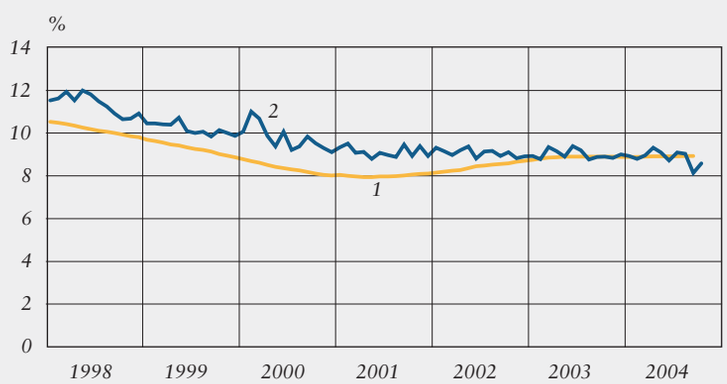
% of GDP
1. Net international investment position excluding equity items
2. Net outward direct investment
Sources: Bank of Finland and Statistics Finland.

21. Finland: GDP and industrial production



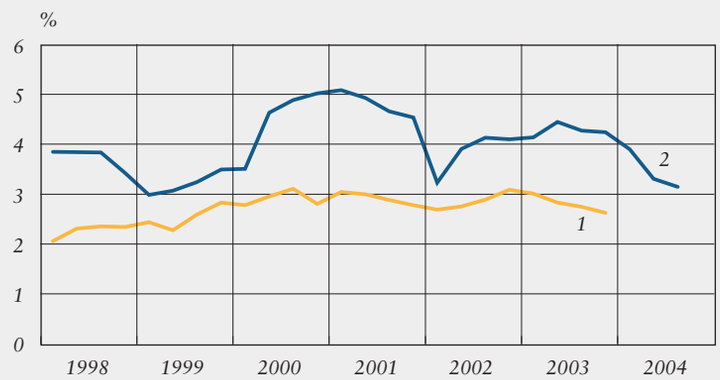
Percentage change from previous year
1. Industrial production
2. Gross domestic product
Source: Statistics Finland.

22. Unemployment rate in the euro area and Finland



1. Euro area
2. Finland
Sources: Eurostat, Statistics Finland and Bank of Finland.
Data seasonally adjusted.

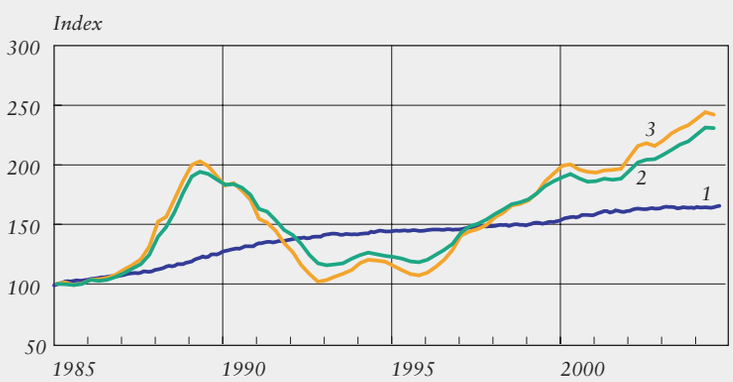
23. Industrial earnings in the euro area and Finland



Percentage change from previous year
1. *Euro area*
2. *Finland*

Sources: Eurostat and Statistics Finland.

24. Selected asset prices in Finland



January 1990 = 100
1. *Consumer prices*
2. *Housing prices*
3. *Two-room apartments (secondary market; debt-free price per m²)*

Source: Statistics Finland.

Bank of Finland Bulletin, Index to Vol. 78, 2004

Organisation of the Bank of Finland

1 December 2004

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