I would like to thank the Turku School of Economics and Business Administration and Professor Okko for providing me with this opportunity to lecture on monetary policy to representatives of academia. As I myself work in the practical sphere of monetary policy, it is natural that in this presentation I shall look into the relationship between theory and practice in monetary policy.

According to an old anecdote, an economist is a person who, when seeing that something works in practice, asks whether it could also work in theory. Robert Solow's satirical comment may, in its time, have been half true, but when it comes to monetary policy it is equally clear that the influence should also operate in the right direction – from theory to practice – and that central bankers have been greatly influenced by economic research.

Research and accumulated practical experience have led to central bankers and economists currently sharing surprisingly similar views on monetary policy principles the world over. In the last two decades, both the theory and the practice of monetary policy have undergone sweeping changes that have resulted in a high consensus with respect to the theory of monetary policy and its conduct in practice. The gap between theory and practice is at present apparently narrower than for a long time.

I shall break down my brief overview of the relationship between monetary policy practice and theory into three sections. I shall first focus on setting monetary policy objectives, then go on to dealing with the institutional framework for monetary policy and finally review monetary policy strategy and implementation. In all these areas, the practice of monetary policy has made enormous progress in the last few years, in fruitful interaction with monetary policy research.

Monetary policy objectives

The stability of the general price level is currently widely recognised as the primary objective of monetary policy. This means that monetary policy seeks to ward off fluctuations in the overall price level, ie inflation and deflation.

The objective of price stability invariably concerns the general level of prices for goods and services over the medium term. Accordingly, the objective of monetary policy is not to stabilise the prices of individual goods but to review the price level for the economy as a whole, for instance, by means of a consumer price index.

It is expressly the prices of goods and services that are at stake, so that monetary policy does not basically aim at stability in asset prices, such as share or housing prices, even if their fluctuations are often a source of concern for central banks.

As the effect of monetary policy decisions on inflation is delayed, to a certain degree, monetary policy has no scope for steering the general price level in the short term; rather policy orientation has been defined for a medium term.

In fact, the forms of defining monetary policy objectives vary globally more than does the real practice.

In the case of euro area monetary policy, the objectives are clearly defined. Price stability was assigned in the Maastricht Treaty as an objective for the European System of Central Banks (ESCB). Under the Treaty, price stability constitutes the primary objective of monetary policy, and the European Central Bank (ECB) must support the general economic policies in the Community without prejudice to the objective of price stability. The Governing Council of the ECB has later provided an operational framework for the concept of price stability, stating that it means an increase in consumer prices of below but close to 2% over the medium term.

The objectives of euro area monetary policy have often been compared with those of the US monetary policy regime. The US central banking system, the Federal Reserve System, is assigned in law a number of parallel objectives, such as price stability and a maximum level of employment. It is interesting that, despite such legal differences, both the ECB and the Federal Reserve, as the central
banks of other major industrial countries, perceive their role as being largely the same: the central aim being to keep inflation low and stable over the medium term, as this is also crucial for sustainable growth and employment.

Price stability should be aimed at for a number of reasons. It helps consumers to distinguish relative price changes from changes in the general price level, thereby providing greater efficiency to the functioning of the price mechanism in the economy. It reduces inflation-induced risk premia in connection with required returns on investment and hence lowers the ‘natural’ level of interest rates. It also reduces economic agents’ need to use their resources for hedging against inflation, thereby preventing unfair and arbitrary income redistribution effects caused by inflation.

Previously, it was often thought that curbing inflation and the pursuit of economic growth and high employment would be mutually contradictory objectives. Both practical experience and theoretical research have however indicated that this does not hold true in the long run.

The currently prevailing view is that monetary policy is able to determine the rate of inflation in the long term and that the maintenance of price stability entails no permanent costs in terms of lower economic growth or job losses, for instance. Research however stresses the importance of a number of price rigidities affecting the economy, which weaken the ability of monetary policy to control short-term inflationary developments and possibly cause interest rate movements to exert even major temporary effects on overall demand and economic growth.

The conclusion from this has been that it is worthwhile for monetary policy to aim at price stability over the medium term, but not to strive for a short-term steering of the price level, which would require the conduct of a very aggressive, stop-and-go interest rate policy, leading to unnecessary shocks to employment and economic growth.

In situations where price stability is exposed to threats from fluctuations in overall demand, monetary policy aimed at price stability also directly evens out cyclical fluctuations.

Historical experience shows that consistent monetary policy aimed at price stability has brought about beneficial effects. In the last decade, inflation and its costs have been brought down significantly the world over. Meanwhile, monetary policy has been able to make an ongoing contribution to growth and it has been possible to formulate monetary policy so as to have a dampening effect on cyclical fluctuations. The difference with regard to the widespread economic instability of the 1970s is absolutely startling.

The global average rate of increase in consumer prices has fallen from about 14% in the period from 1980 to 1984 to less than 4% in the period from 2000 to 2005. At the same time, a number of countries have witnessed a definite moderation in inflation and output volatility. This experience denies the idea of a contradiction between price stability and stability in the real economy.

Although the orientation of monetary policy towards curbing inflation has clearly been a major international success, it must be admitted that monetary policy has not been the single determinant of the strongly falling inflation. Another driving force with a similar effect has been the much discussed globalisation. Tightening international competition has changed corporate pricing behaviour and also trade unions’ objectives of negotiation towards a more moderate stance. This has led to the weakening of the wage-price spiral in a number of old industrial countries.

**Monetary policy institutions**

Another area where the interaction between monetary policy theory and monetary policy practice is clearly visible is the development of institutions. Since the end of the 1980s, an increasing emphasis has been laid on central bank independence within the institutional arrangements for monetary policy. This derives from the fact that credibility has been understood to constitute a precondition for a successful monetary policy.

Central bank independence does not, of course, mean that a central bank ought to be free to choose its operational goals. On the contrary, the modern viewpoint emphasises central bank independence for the reason that only independent central banks are able to act as reliably as possible in the performance of precisely those tasks that have been democratically conferred on them – in other words, to maintain price stability through the conduct of monetary policy. The importance of independence in this connection is that it adds to monetary policy credibility and thereby confidence in the value of money.
Providing evidence and analysis of the importance of expectations and credibility is certainly among the key issues for which the practice of monetary policy can give credit to economic research done in the last few years. These concepts have in fact dominated theoretical monetary policy research more than anything else at least since the mid-1980s.

The modern macroeconomic picture of the functioning of the economy is strongly forward-looking. This means that both inflation and overall demand are largely determined by expectations concerning the future. For example, the rate of inflation is determined by what people, companies and trade unions expect of future inflation. The demand for goods and services, in turn, depends on future income and real interest rate expectations.

According to modern understanding, the effects of monetary policy are also largely transmitted through expectations of future inflation and of future interest rate levels, and monetary policy can be perceived as being an instrument of exerting influence on the expectations of the public and the market. Michael Woodford, one of the current leading monetary policy researchers, has noted that very little else than expectations actually matter to monetary policy implications.

The credibility of monetary policy means that the inflation expectations of the public and the market are consistent with the central bank's monetary policy objectives so that the public and the market have confidence in the ability and willingness of the central bank to achieve its monetary policy goals.

This is of great importance, in practice. A high level of credibility enables the central bank to achieve its objective of price stability through the conduct of even a fairly moderate monetary policy. In contrast, if credibility is weak, defending the value of money will require a heavyhanded monetary policy, which causes shocks to economic growth and employment, without necessarily managing to control inflation.

Economists say that central banks lacking monetary policy credibility have a problem with commitment. To this problem, economic literature proposes a variety of solutions. Perhaps the most famous is the idea presented by Kenneth Rogoff that the management of an independent central bank should be appointed from among persons who are more conservative than ‘the public opinion’ so that the managers are only interested in achieving price stability, without laying much emphasis on the short-term effects of monetary policy on the real economy. Another idea is the proposition by Carl Walsh, under which politicians should agree with the central bank management on a long-term agreement on results, which would reward the management for achieving price stability and punish it for inflation or deflation.

I cannot tell how literally or even seriously these researchers have intended their propositions to be taken. In practice, efforts to build up central bank credibility have however been slightly different, mainly comprising the following three complementary approaches.

The first one of these is ensuring central bank independence. The European Central Bank, for example, enjoys full functional and financial independence in relation to the European Union's political institutions, and the members of the Governing Council responsible for the ECB's monetary policy are widely protected in the discharge of their duties. Nor are we allowed to take monetary policy instructions from any outside instance. The same requirement for independence also applies to the central banks of all Member States participating in Economic and Monetary Union (EMU). With new Member States joining Economic and Monetary Union in the next few years, legislation concerning their central banks will also have to fulfil these requirements.

Another approach is building up a solid reputation. Through the conduct of a consistent, successful and well-founded policy, the central bank may, over time, acquire such credibility as is needed in the implementation of monetary policy. The build-up of a solid reputation may be accelerated by a public commitment to the objective of price stability. Transparent communication on policy measures, their underlying economic analysis and rationale, and on factors affecting future policy has added to monetary policy credibility.

Despite its young age, the European System of Central Banks (ESCB) has been able to gain a high level of confidence, reflected in, for instance, the fact that inflation expectations in the euro area are fairly well in line with the objective of price stability. In this respect, the ECB has benefited from the confidence and credibility that the German central bank, the Bundesbank, had acquired in the course of decades. Notably in its first years of operation, the ECB focused on maintaining continuity relative to the traditional monetary policy stance of the largest Member State, Germany.
A third approach to securing monetary policy credibility consists of the coordination of other economic policies with the aim of maintaining price stability. This especially concerns fiscal ie budget policy. Disciplined fiscal policy, which avoids excessive deficits and borrowing, is not only the hallmark of a good economic policy, but also a prerequisite for a successful monetary policy. In the absence of such discipline, no central bank can succeed in the long term in achieving price stability. A sort of deadlock in public finances would lead to such strong pressure on monetary policy that the mere possibility of a deadlock should be ruled out in advance for the sake of monetary policy credibility.

Economic and Monetary Union provides a comprehensive mechanism for the coordination of economic policies, the hub of which is the Stability and Growth Pact, aimed at constraining public deficits and public debt.

It is widely known that the surveillance procedures and sanctions related to the Stability and Growth Pact have been heavily tested recently, as many of the Member States participating in Monetary Union have broken the limits set for public deficits. The ECB has called for a strict compliance with the regulations contained in the Pact. This is natural: the credibility of monetary policy requires both that the Pact provides sufficient flexibility to be credible and that the framework is sufficiently solid to ensure that the management of public finances in the euro area and in each of its Member States really remains on a sustainable basis over the long term.

### Monetary policy implementation

As has been the case with the definition of monetary policy objectives and the central bank role, the principles for implementing monetary policy have also undergone changes, which are related to research done in the area.

The present mainstream of macroeconomics is characterised by the tendency to simply portray monetary policy as representing a mere setting of interest rates. A number of models describe monetary policy by means of interest rate rules, which tell how the central bank's policy rate depends on the prevailing rate of inflation and the status of the real economy. The most famous of these rules is the Taylor rule. According to this rule, the deviation of the real central bank rate from its neutral level depends, on the one hand, on how much inflation deviates from its targeted level, and, on the other hand, on how much the level of GDP deviates from the output potential prevailing in the economy at any given time.

Reducing monetary policy into mere interest rate decisions is in fact a fairly realistic way of reviewing the matter, even if no central bank relies on mechanistic rules in determining interest rates. Treating monetary policy as a series of interest rate decisions has also meant that disputes over money supply and demand that have plagued macroeconomics for decades – the debate on what is known as monetarism – has simply been put aside after the interest rate approach has gained ground.

Central banks naturally seek to closely monitor economic developments and to respond through their respective interest rate policies to perceived shocks to price stability. This is no easy task, as distinguishing temporary factors affecting inflation from permanent changes is difficult. Central banks aiming at price stability over the medium term do not want to react to all temporary fluctuations in inflation. On the other hand, monetary policy under changing circumstances must give proof of sufficient sensitivity in order to keep inflation expectations firmly anchored to price stability.

The main reason for the non-reliance on mechanistic rules in making interest rate decisions is the difficulty of interpreting the economic situation. Monetary policy theory and also practical decision-making necessarily operate on the basis of highly abstract concepts. These include potential output, the rate of change in total factor productivity, the neutral real interest rate level and prevailing inflation expectations. These variables are theoretical concepts that cannot be measured unambiguously. They also vary over time. Making a proper assessment of the economic situation is however the fatal question of monetary policy. US studies have even pointed out that losing control of inflation in the 1970s was a consequence of a misjudgement of the US economy's output potential after the 1973 oil crisis.

Therefore, as interest rate decisions are inevitably accompanied by a high degree of discretion and decisions must be made in an environment of uncertainty, it would be unrealistic to assume that price stability could be maintained over short horizons, from month to month and from quarter to quarter. Taking uncertainty into account underscores the fact that the objective of price stability must be set over the medium term. Even more important is that monetary policy credibility rests on a sound footing...
and that inflation expectations are firmly anchored, making it unnecessary for monetary policy to respond to every fluctuation in inflation.

In the last few years, one of the focal areas for both practitioners and researchers of monetary policy has been the question of policy transparency, in other words the effectiveness of communication.

Monetary policy transparency means how well the public is aware of the central bank’s monetary policy intentions and the issues on which the next interest rate decisions will depend.

Transparency concerning monetary policy objectives is naturally an important issue, as I already noted earlier. Current discussion focuses specifically on shorter-term transparency, in other words, how a central bank should communicate its intentions for the near-term interest rate policy.

Communicating the stance of interest rate policy is vital, as market rates are not determined solely by the prevailing policy rate but are also forward-looking: they are always largely dependent on the expected interest rate moves by the central bank over the coming weeks and months. In Finland, for instance, most housing loans are tied to the 12-month Euribor, which is clearly more dependent on interest rate expectations than on the level of the ECB’s policy rate.

News on monetary policy mostly tends to focus on the interest rate decision made each time. The interest rate decision is not, however, the whole story of monetary policy, as central banks in fact dispose of two at least slightly differing instruments – the prevailing level of the policy rate and expectations of the future interest rate level. Expectations of the future interest rate level are not only influenced by the prevailing interest rate but also by the information the central bank provides on its interest rate decisions and on its areas of concern as well as by the monetary policy framework within which the central bank operates.

In the case of the European Central Bank, the monetary policy framework is reflected in the strategy published by the ECB. The strategy provides an organised framework for monetary policy presentation at the Governing Council of the ECB and for the post-meeting explanatory note, known as the introductory statement. The strategy is composed of two pillars, the one covering an economic analysis of inflationary pressures, including euro area macroeconomic projections, and the other a monetary analysis providing information on inflationary pressures as reflected in monetary and credit developments.

One of the purposes of the strategy is to enhance the transparency of ECB policy. The two pillar structure has occasionally been criticised by researchers. It has been considered ambiguous, and it is certainly so compared with the Taylor rule. The monetary analysis has also recently been less popular among researchers than it used to be. I however believe that the strategy in its present form is useful for the purposes of policy transparency, as the Governing Council naturally needs to focus attention not only on the real economy but also on the development of the money and credit markets. Overlooking this would not increase policy transparency.

In past years, central banks often sought to make their interest rate decisions unexpectedly and even considered it a matter of honour. Transparency in central bank policy has however been increased systematically in recent years. This has been made in an effort to contribute to a stable and smooth functioning of the money market.

Central banks, as also the markets and the media, presently take a highly serious attitude towards the form and content of communication on topical monetary policy issues, as what is told about interest rates is almost equally important as what is done with them. For the present, however, I am not in a position to mention any more about transparency in interest rate policy, as the purdah period, a period during which the members of the Governing Council of the ECB refrain from making any comment, starts one week before each Governing Council meeting.