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Tasks and procedures of modern central banks

Speech given at the Bifröst School of Business, October 17, 2002

Ladies and Gentlemen!

I have given my speech here today the title Tasks and procedures of modern central banks. I shall not be discussing exchange rate policy and the future of the Icelandic króna, as I did the last time I spoke here, since the Central Bank of Iceland switched to an inflation target 20 days later. Nor will I address Iceland's economic situation and prospects or monetary policy, as I often tend to do, except to explain my main theme more clearly. I am pleased at being able to discuss this topic here today, because I have felt that recent public dialogue, including coverage of the appointments of Central Bank Governors, has shown some lack of understanding of the tasks of the Central Bank of Iceland.

The problem in this respect, however, is that it is primarily experts and executives at the Central Bank who have extensive knowledge of this issue. They have learnt the theories on which central banking is based and have generally spent many years monitoring the evolution of the international central banking world. Nonetheless they are understandably reluctant to become involved in a dialogue focused above all on appointments to individual governorships, which is in fact often the main occasion for many to show an interest in the Central Bank's activities. Instead, the media often seeks the views of people with pitifully little understanding of what central banking is all about.

I consider that the most favourable course is for Iceland to evolve in this respect along similar lines to the countries which are now regarded as models of central banking, such as the UK and Sweden, to take examples. Central bank executives and experts in these countries give numerous talks and presentations, to explain to the public, interested parties and politicians what it is that central banks do and why. There is sometimes hardly a week without some such speech. Knowledge and information are rarely a bad thing and it is generally acknowledged that monetary policy works better, the more understanding that people have of it.

The nature and role of central banks

Generally speaking, central banks came into existence either as the bank of the government (Europe) or as the bank of the banks (e.g. the USA). In the former case they were supposed to support the state in a variety of ways, e.g. in connection with procurement of credit, while in the latter case they were designed to prevent financial crises.[2] Whatever their origin, the latter role soon became more important, in particular after they were granted the exclusive right to issue legal tender. Since central banks were bankers to their governments, they were generally in command of the bulk of their countries' foreign reserves and by virtue of their above mentioned exclusive

1. Chief Economist of the Central Bank of Iceland. Mostly based on a speech given at a seminar organised by Bifröst School of Business. The author would like to thank Elín Gudjónsdóttir, Ingimundur Fridriksson and Thórarinn G. Pétursson for their constructive remarks. The views presented here are those of the author and do not necessarily reflect the views of the Central Bank of Iceland.

2. See, e.g., Goodhart (1988).

right to issue legal tender could "print money" to help banks facing liquidity problems, they became the banks' bank. It was not until much later that this position was used to engage in an active monetary policy, which today is the main role of most central banks.[3] The scope for monetary policy for the purpose of reaching macroeconomic objectives, in the form we know it today, was for a long time limited because of the gold standard which prevailed until World War I, in addition to the fact that theory of economic policy was much less developed than today. To summarise, we can say that central banks have the following main roles:

- Issue of notes and coin.
- Stability of the financial system as a whole, including an effective and secure payments system.
- Maintenance of foreign reserves.
- Monetary policy guided by macroeconomic goals.

Of course, central banks can perform many kinds of other functions, but then only because the government has made a specific decision to that effect, and not because these are intrinsic to central banking. Examples are supervision of individual financial institutions, debt management on behalf of the treasury and relations with international institutions.

The theoretical basis of monetary policy

I intend to focus primarily on the monetary policy role of central banks, which is the main role of most central banks today. Enormous advances have been made in this field in recent years, which is why I have called this talk *Tasks and procedures of modern central banking*. These advances are based on a much closer interaction between theoretical economics and central banking than was the case a few decades ago. Economic theories on central banking objectives, procedures and organisation have been making major advances, and economists and central bankers are in closer agreement on these issues than they once were. Economic theories have a considerable effect on central bank activities and organisation in much of the world. Monetary policy is therefore on a much firmer theoretical foundation than it used to be. In my opinion, the same trend is taking place with respect to the other main role, i.e. maintenance of overall financial stability, although this is not at such an advanced stage and may perhaps never be, partly because the tasks involved there are in some respects quite different. Central banks are continually changing interest rates, which generates numerous measurements of their impact on the economy. Financial crises, however, are fortunately rare events in any individual country and they differ from each other in many ways. Nonetheless these two main fields of activity are linked, as I shall discuss later.

Examples of the questions to which scientific answers are sought through theoretical and empirical work include:

- How do central bank instruments, especially interest rates, act on the economy?
- To what extent should central banks commit themselves in advance with respect to applying their instruments? Examples are announcements of a fixed exchange rate regime or a specific inflation target.
- Which simple rules for interest rate changes work well? For example, this involves rules that on average reach a given inflation target but at the same time portray the central bank's real responses to the economic cycle. One example is the well known Taylor rule.
- How much account should be taken of asset prices and asset price bubbles in monetary policy decisions?
- How should uncertainty be taken into account in monetary policy decisions?
- What is the most suitable way to organise monetary policy decision-making? Do monetary policy committees produce better results than, for example, a single governor who relies on advisors?

Some of these questions have been answered better than others which are still disputed and heatedly discussed by academics and central bankers. Before addressing a number of these issues I shall begin by explaining what monetary policy is and its impact on the economy.

3. Goodhart (op. cit.) p. 7 says that "...historically, in fact, the "monetary" functions were largely grafted on to the "supervisory" functions, not the reverse".

What is monetary policy?

Monetary policy involves measures by a central bank to influence the money supply and/or money market interest rates guided by specific macroeconomic goals. The central bank is able to do this because of its exclusive right to issue legal tender, because commercial banks are compelled to have deposits and/or borrow from the central bank, and because the central bank has reserves which it can deploy to affect the balance between supply and demand in money and forex markets.[4] Most central banks in industrialised countries use this force to manage interest rates in the money market, i.e. short-term nominal interest rates. In most cases this is done through a central bank decision on its own policy rate of interest that is used in its transactions with banks and other credit institutions. With free capital movements, as in Iceland's case, there is a close relationship between domestic interest rates and the exchange rate. Under such conditions, the central bank can be regarded as having only a single instrument for attempting to achieve the macroeconomic goals that have been set for it (or it has set for itself).[5] As a general rule only one goal can be attained if only a single instrument is available. Where financial markets are developed and open, monetary policy primarily involves making decisions on the policy interest rate with a single goal in mind. In an increasing number of cases this is the goal of a low rate of inflation.

Inflation is a monetary phenomenon

Why should a low rate of inflation be the most normal objective of monetary policy, but not, for example, a high rate of employment or maximum economic growth? The reason is that, inflation is in the final analysis a monetary phenomenon. By changing their short-term nominal interest rates, central banks impact long-term nominal interest rates. They also have an effect on interest rates in real terms, since prices and wages are sticky in the short-term. Changes in the real interest rate then influence consumption and investment, both directly and through their impact on asset prices, e.g. prices of real estate and equities. Total demand changes, thereby impacting wage formation and inflation. Monetary policy is also transmitted through the exchange rate. Higher interest rates, for example, cause a temporary rise in the exchange rate. This then has a triple effect on inflation. Firstly, a higher exchange rate tightens the position of export and competing sectors, curtailing their activity and demand for labour. Secondly, it channels demand towards imports, thus easing domestic inflationary pressure. Thirdly, it has a direct impact on domestic consumer prices via lower import prices.

The impact of monetary policy on real rates of interest, the real exchange rate, demand, level of employment and economic growth gradually fades out, however, once market participants' expectations adjust to the new conditions, and wages and prices overcome their short-term stickiness. What remains is the impact on inflation. To summarise, we can say that monetary policy influences inflation in the long run but in the short term it can swing the output and the employment level around an equilibrium determined by other factors which are largely unaffected by monetary policy, such as technology, the propensity to save, risk taking, efficiency of markets and labour participation.[6]

What can monetary policy do, and what not?

Although under normal circumstances central banks are incapable of exerting an impact on economic growth in the long run, they can do so in the short run through their effect on aggregate demand. Indeed, monetary policy functions by swinging GDP and the employment rate around their equilibrium value, which in turn affects the rate of inflation. A positive output gap and inflationary pressures are formed when GDP goes above its equilibrium value, but slack and lower inflation when it falls below. This is the reason that a temporary recession has often

4. The first two points are really much more important, since the central bank's own reserves are always limited. Thus a central bank can use its foreign reserve, for example, to support a falling exchange rate, but if the downward trend is persistent the point will be reached where the reserve dries up and the bank will either have to raise interest rates or allow the currency to depreciate.

5. This ignores a central bank's buying and selling of foreign exchange by drawing on its own foreign reserve, but such transactions can have only a short-lived impact on the exchange rate since national foreign reserves have in fact both upper and lower limits.

6. For a more detailed description of the transmission mechanism of monetary policy, see the article by Pétursson (2001).

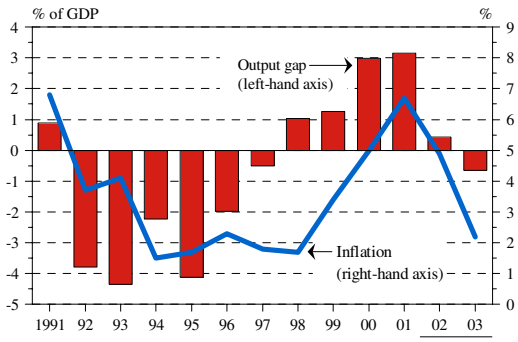
accompanied measures to contain inflation in industrialised countries. One of the most common triggers of recessions in the postwar USA has been a Federal Reserve interest rate hike as an attempt to contain rising inflation. However, this does not apply to the current economic recession. The ability of central banks to have an impact on short-term growth also enables them to counter a downswing by cutting interest rates when inflation is not a problem. This is precisely the position in the USA at the moment.

This has not been the situation in Iceland, however, until in the past few months. Inflation was running high and the Central Bank had to concentrate on that. Its scope for stimulating growth in the short term was virtually nil and in fact there was no occasion for doing so until very recently. As it happens, the latest figures show that the assessment made by the most vocal advocates of interest rate cuts last year was simply wrong. Growth measured 3.6% and was in excess of potential. The positive output gap widened and peaked last year during the upswing which has now come to an end. Unemployment was only 1.3% on average and 1.7% after seasonal adjustment at the end of last year. In both cases this is some way below the probable assessment of equilibrium unemployment. Inflation was on the increase and peaked at 9½% in the beginning of 2002, and inflation expectations rose in its wake. The exchange rate of the króna was under strong pressure for most of last year. Last but not least, the Central Bank policy interest rate went down in real terms in the middle of last year on account of higher inflation expectations which mirrored a higher measured rate of inflation, thereby in effect easing the monetary stance.

Towards the end of last year, inflation expectations had fallen again and the Central Bank interest rate rose in real terms from just over 4% to 6½%. Given that turn of events and the outlook for a slack in the economy in 2002, the Central Bank then cut its interest rate by 0.8 percentage points in November 2001. For most of the year, however, there were no preconditions for easing the monetary stance, and actually it was not until this year wore on that the fundamentals for a real interest rate reduction process developed, at the same time as a significant slack formed and inflation rapidly decreased. The Central Bank immediately launched its interest rate reduction process and in the autumn it has paid growing attention to the short-term growth outlook. The accompanying chart shows the correlation between the output gap and inflation in Iceland. It clearly displays the strong relationship between inflation and the level of demand in the economy.

Chart 1

Output gap 1991-2003



Sources: Statistics Iceland, Central Bank of Iceland.

I have described here what monetary policy can do. But it is no less important to realise what it cannot do, because voices are sometimes heard demanding that it does just that. Monetary policy cannot prevent economic cycles, it can only dampen them if it is well implemented and credible. Monetary policy cannot prevent asset price bubbles. Monetary policy cannot shore up equity prices. Nor can monetary policy completely prevent financial instability. However, bad monetary policy can contribute towards it, and good monetary policy can reduce the probability that it will happen. Last but not least, monetary policy in general cannot influence economic growth except in the short run. There are three exceptions, however. If monetary policy is excessively lax and fuels very high inflation over a longer period, it can weaken GDP growth. Likewise, excessively tight monetary policy can contribute to deflation which can contribute to stagnation or recession (as exemplified by developments in Japan over the past decade). Thirdly, an excessively tight monetary stance linked with a hard fixed exchange rate policy can keep real interest rates way above what is suitable for the domestic economy for sufficiently long to weaken it severely over a longer period. A recent example is Argentina.

Lags, expectations, credibility and uncertainty

Two obvious points arise when monetary policy is described in the way I have done here. One is that it involves a considerable lag, i.e. it takes time after changing central bank interest rates until the impact on inflation is felt. International studies suggest that 6-12 months will elapse until the impact on inflation is transmitted with any force and up to 2 years until it is transmitted in full. Studies on Iceland suggests that the lag is not dissimilar.[7] The second point is that expectations of economic participants play a considerable role in the process.

This has three consequences. Firstly, central bank credibility can be crucial for the transmission of monetary policy. By credibility is meant that the agents in the economy believe in the central bank's ability and willingness to attain the inflation target set for it. Such faith makes it easier for the central bank to attain its target, since expectations in the marketplace help it to do so. It is also easier for the central bank to dampen the economic cycle or help financial institutions in difficulties, because suspicions are less likely to arise that it has a hidden agenda. If credibility is low, an interest rate rise, for example, may force up inflation expectations. The intended reduction in the real rate of interest would then be smaller than otherwise and likewise the stimulus delivered to the economy. The same would happen with respect to the exchange rate. Furthermore, a persistent lack of credibility leads to a higher risk premium in interest rates than otherwise, with negative consequences for growth and living standards.

Secondly, monetary policy needs to be forward-looking. Formal forecasts and assessments of economic prospects therefore play a key role in monetary policy formulation. One example is that the Central Bank of Iceland's inflation forecast is the most important reference for monetary policy decisions.[8]

The third and to my mind the most important consideration is that monetary policy decisions are always made under conditions of uncertainty. This uncertainty is "here, there and everywhere", so to speak. Not only is the future inherently uncertain. Uncertainty also surrounds the situation at the passing moment, since economic data are generally measured with some lag. Other uncertainties involve the proper economic model, the nature of the transmission mechanism of monetary policy and market participants' responses to monetary decisions at any time. In my opinion one of the main tasks of central banks is to try as far as possible to overcome the effects of this uncertainty. A central bank does this in three main ways. Firstly, by having at its disposal a good system for monitoring the economic situation and outlook. Secondly, by probing its way ahead with changes in the interest rate, i.e. changing it more often and in smaller steps than it would presumably do if it had perfect knowledge of the present and future.[9] Thirdly, by having an internal system for discussing and assessing the situation and the outlook and the right course of monetary action, thereby taking full advantage of the knowledge within the bank. Without this uncertainty, central banks could be much smaller. Finally, it should be borne in mind that because uncertainty will never be entirely eliminated, monetary policy will always be a mixture of science and art.

Since this is such an important point I would like to cite two examples connected with uncertainty. One is the Central Bank of Iceland's system for evaluating the economic outlook and prospects. This is an extensive system which has been strengthening in recent times, since a forward-looking monetary policy became even more important than before after the Bank adopted inflation targeting. A considerable amount of manpower is deployed on the system. It can be described as follows:

Evaluation of economic indicators: New economic statistics are analysed whenever they are published. Every month the Economics Department examines and analyses well over 100 domestic eco-

7. See Pétursson (2001).

8. A discussion of a monetary policy regime with a formal inflation target is found in Pétursson (2000a).

9. Blinder (1998) presents at once a theoretical and accessible discussion of monetary policy under conditions of uncertainty, both as an academic economist of the highest calibre and having the experience of sitting on the US Federal Reserve System Board. He cites Brainard's Rule, i.e. under conditions of uncertainty it must be decided what would be done if the parameters of models used in determining monetary policy were known for certain, and then do less. This supports the hypothesis that it is better to change interest rates in many small steps rather than a few large ones.

nomic aggregates which are generally published on a monthly basis or more frequently.

Forecasting: Four times a year the Central Bank publishes an inflation forecast projecting at least two years ahead. In connection with these, a detailed assessment is made of the most crucial economic factors for price developments. The Central Bank also examines forecasts by other analysts.

Market watch: The Dealing Room of the Bank's Monetary Department closely monitors developments in domestic financial markets and keeps close contact with other financial institutions.

Surveys: The Central Bank commissions surveys of household and corporate expectations and plans on a regular basis.

Discussions: Bank officials conduct a wide range of interviews and discussions in order to obtain information and assessments. For example, the Governors of the Central Bank hold regular discussions with senior executives of other financial institutions.

I would like to say a few words here about forecasts and their function in this process, since I have noticed misunderstandings about them. Although I do a lot of work on forecasts and consider them important, their function must not be overestimated. Forecasts do not necessarily represent the best guess by forecasters regarding what will happen, but are always conditional upon specific assumptions, some of which are technical or made by convention. An example is that inflation forecasts are generally based on an unchanged exchange rate. The same can in fact be said about national economic forecasts. This does not necessarily mean that forecasters consider it most likely that the exchange rate will remain unchanged. This caused some problem in forecasting in Iceland when the current account deficit was at its peak and there was a high probability that the exchange rate would depreciate if no other factors came into play, as later transpired very clearly. The consequence was that the inflation forecasts were too low while the current account deficit forecasts were too high, based on the way things turned out, although not necessarily with reference to their given assumptions.

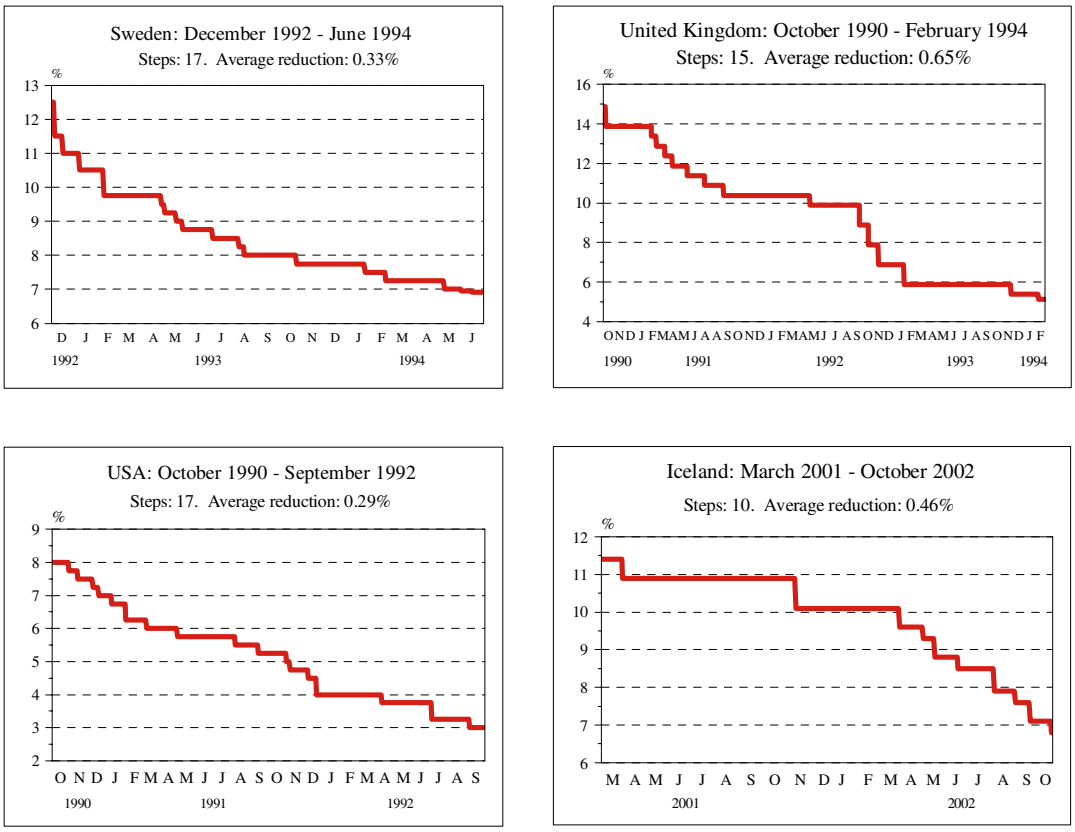
There is a tradition in Iceland of forecasting inflation, growth and the like to the finest degree. In my opinion this is very misleading. There is often a wide uncertainty range around the forecasts which needs to be taken into account. The Central Bank has tried to enhance understanding of this point by presenting the probability distribution surrounding its inflation forecast. The same understanding needs to be cultivated concerning, for example, national economic forecasts. When all is said and done, forecasts are "just forecasts." This is one of the reasons that the Central Bank of Iceland, like other central banks, does not alter its monetary policy solely on the basis of forecasts, but also looks at the way that incoming data is confirming or undermining them.

This leads me to the second example, which involves interest rate changes. Central Banks have a tendency to change their interest rates in many small steps rather than a few big ones, cf. the accompanying charts covering several periods of interest rate reductions. Part of the reason lies in the fact that they want to take financial stability into account and therefore do not wish to fuel excessively abrupt changes in interest rates and asset prices. In my opinion the main reason lies in uncertainty. What the central banks do is to probe their way ahead regarding the impact that interest rate changes have on the economy and continuously reassess the position in light of information received. Given the uncertainty involved it is safer to do this more often rather than less. Central banks with formal, announced meetings to set interest rates generally hold them many times a year. It would be a much more complex business, given the uncertainty, if central banks could only make decisions, for example, once a year.

Iceland's recent interest rate reduction process is compared with three examples on the chart, which shows the policy rates of respective central banks at each time. The first example is the interest rate cuts in Sweden from December 1992 to June 1994, i.e. after the Swedish krona devalued during the currency crisis and interest rates were then gradually reduced as inflation came down and the slack intensified. There were 17 steps in all and the average cut was 0.33 percentage points. The other two show interest rate cuts in the UK and USA in the beginning of the 1990s. The chart shows that the steps taken in Iceland so far have generally been fewer and larger than in those cases. The exception was the interest rate cuts in the UK following the currency crisis in September 1992, which were out of all proportion to the state of the domestic economy.[10]

Chart 2

Periods of interest rate reductions in selected countries



Source: EcoWin.

Legal status or central bank independence

A variety of arguments have been put forward for granting central banks independence to apply their instruments in order to achieve the goals that their governments set them. This is of course conditional on the goals being within their reach, i.e. that they are goals such as price stability, a specified low rate of inflation or stable exchange rate. The condition for a central bank to be considered independent in the above sense is that it decides for itself the application of its instruments, is not authorised to accept directives from the government except following a specific process,[11] is prohibited from lending directly to the treasury and does not need to work towards other goals except insofar as they are consistent with its main objective.

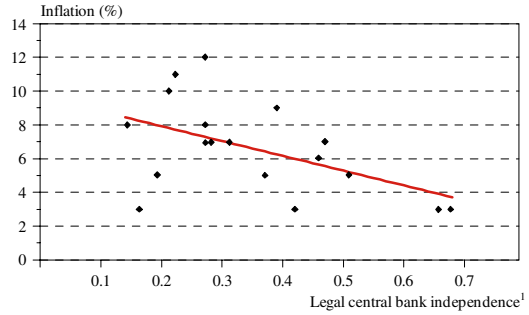
Theoretical arguments for central bank independence are based on the tendency among politicians to take advantage of the negative short-term relationship between inflation and unemployment at the expense of the inflation target. In the long run this

10. The chart does not include the rise in interest rates in the UK from 12% to 15% in September 1992 in an attempt to defend sterling within the ERM. However, these interest cuts never took place, because the UK left the ERM before they came into force.

11. For example, the US Congress may pass legislation to change Federal Reserve decisions. However, this process would take place openly and would prove very costly to the congressional majority in political terms unless it was more or less right. This recourse has never been used.

Chart 3

The relationship between inflation and legal central bank independence in selected countries



1. On a scale 0 (least independence) to 1 (greatest independence).
Source: Cukierman (1992).

would produce a higher inflation rate but no benefits in the form of a higher employment level. An independent central bank, on the other hand, can achieve better inflation results without doing so at the expense of the long-term level of employment.

The practical arguments for central bank independence involve the points I mentioned earlier about lags and decision-making under conditions of uncertainty. Monetary decisions call for a forward looking assessment of the economic situation guided by long-term viewpoints. Broadly speaking, since they entail repeated decisions in a restricted field (interest rates up, down or unchanged), it is defensible to assign them to experts, but who are made accountable.[12] The third argument in favour of central bank independence is simply that it seems to work well in practice. A variety of attempts have been made to measure central bank independence and then examine its relationship with certain important economic aggregates.[13] As far as the industrialised countries are concerned, research suggests that increased legal central bank independence shows a statistically significant correlation with lower rates of inflation (e.g. as shown in the accompanying chart for 18 industrialised countries over the period 1980-89) while there appears to be no relationsship with economic growth. However, there is a positive correlation between central bank independence and growth in the developing countries. This finding could be in line with the hypothesis that when inflation exceeds a certain level (which appears to be around 15%) it will have a negative relationship with economic growth.

In other words, the success of monetary policy increases if central banks have full independence to apply their instruments in order to achieve their goal of price stability. However, it should be the governments which define the central banks' goals, not the banks themselves. The other side to central bank independence is that they should be accountable for their actions in a double sense, i.e. they should be made responsible for attaining the goals set for them, and should explain their monetary policy to the government and general public. To facilitate accountability of monetary policy and enhance its credibility, it must be transparent. Thus a central bank needs to explain publicly how it envisages the impact of monetary policy on the economy and describe how it intends to achieve its goal. It also needs to explain thoroughly how the measures that it takes at any time relate to its goals and to its assessment of the economic situation and outlook, especially as far as inflation goes.

Monetary policy decisions

Of the decisions that central banks make the interest rate decision is the most important for the society at large. In effect, the power of central banks is limited in other respects. The Central Bank of Iceland is an example. Apart from determining interest rates, it also decides on forex market intervention, the size and composition of the foreign reserve, required reserves, liquidity requirements and rules on the foreign exchange balance of credit institutions. The Bank may also lend to credit institutions which are in difficulties if it identifies the need to do so in order to preserve confidence in the Icelandic financial systems. In all other matters where the Central Bank may be involved, it is in the role of an adviser or con-

12. In this context Buiter (1999) makes an interesting comparison between a government and the monetary decision-making institution within a central bank. He points out that governments make many decisions where a large proportion of members, by their very nature, know little about the topics under discussion: "Not so with monetary policy. The policy-making council of a central bank does just one thing. It sets a short nominal interest rate. The people that make up the council are, or should be, experts on how this one narrow task is best accomplished."

13. See, e.g., Cukierman (1992), who presents a classical survey of theories and practical studies of central bank independence, and Pétursson (2000b), who discusses the independence of the Central Bank of Iceland in comparison with the position of central banks in almost 100 countries in 1998.

tractor to the government or individual government ministers and subject to their decisions. In itself this is very natural, since arguments for central bank independence do not extend to these fields. Thus it is a great misunderstanding that central bank governors have some kind of tacit economic omnipotence. Central banks have much more limited power than governments, which is only normal since they do not have the same democratic mandate. governments have many more instruments at their disposal and allocate much greater resources. They therefore have a much stronger impact on economic developments, especially regarding the long-term trend. So it is something of a myth to claim that central bank governors are the most powerful figures in any country's economic affairs.

Be that as it may, the manner in which monetary decisions are made is crucial. The most common arrangement, in the industrialised countries at least, is that these decisions are made by monetary policy committees with many members. Research also suggests that committee decisions are better than those of one individual.[14] In my opinion, the uncertainty I discussed earlier is a further argument in favour of the committee arrangement.

Does this spell doom for the notion of a single central bank governor? Yes, if we are talking about a single person making all the monetary decisions. No, if we are talking about a single chief governor who has a monetary policy committee with him in the decision-making process. This is the arrangement in the USA, UK and Sweden, for example. There are nine members on the Bank of England's Monetary Policy Committee, i.e. the Governor, two Deputy Governors, the Chief Economist, the Executive Director of Market Operations and four external experts. Most monetary policy committee members of these three banks are economists with experience of economic policy making, research or financial markets. Experts in macroeconomics, economic policy and central banking outnumber proper commercial bankers, since the decisions that these committees make differ in character from those of commercial banks.[15] Committees are obliged to hold meetings at regular intervals and announce their decision at the end of them. Apart from that, they are obliged to publish at least a summary of their minutes within a specified time lag and give a detailed explanation of their monetary policy to parliament and the general public.

So what do these committees discuss and what is thereby the main role of central bank governors? They mainly discuss the economic situation and outlook and what the level of interest rates ought to be. But they also discuss different evaluations of the impact of interest rates on the economy, i.e. what is the "right" economic model. They discuss whether to intervene in the forex market, whether and how monetary policy should take account of asset prices, and other similar questions. In doing so they are assisted by a whole array of economists, but at the end of the day it is they who take the decisions. Monetary policy committee members then usually take a high public profile as they explain the thinking behind the assessment and their decision.

The Central Bank of Iceland

How does the Central Bank of Iceland stand in this respect? Much better than several years ago, at least, since in the space of a very few years major changes have been made to the framework within which the Bank operates, and it has developed its procedures and organisation. The Bank has been on an inflation target since March 2001. A new Central Bank Act was passed by Parliament in May the same year. Goals were set for it based on the idea that inflation is in the final analysis a monetary phenomenon.[16] The Bank was granted full instrumental independence in order to achieve the goals that have been set. In formal terms it is the Prime Minister who sets the bank's inflation target, but in practice this has been decided in consultation and with consensus. The inflation target is 2½%. Due to the prevailing economic situation when it was decided to put the Bank on an inflation target, an adjustment period was

14. A recent study of this sort was made by the Bank of England with the participation of students at the London School of Economics. The findings are published in Lombardelli and Talbot (2002). For a long time such experiments were not customary in economics, but this year's Nobel Prize was in fact awarded for the establishment of laboratory experiments as a tool in empirical economic analysis.

15. Experience of working in financial institutions, however, can be useful for the other main task of central bankis, i.e. to preserve the stability of the financial system.

16. See *Monetary Bulletin* 2001/2 and 2001/3.

given within which the target was to be attained no later than 2003. The outlook now is that it could be attained earlier.

On the basis of this legislation, the Central Bank has set itself procedures on the preparation of, arguments for and presentation of monetary decisions, founded on the notions of accountability and transparency that I have mentioned here.[17] The rules are based on the following main viewpoints:

- "To ensure as far as possible that pertinent information and the expertise of Central Bank employees are utilised in monetary decisions.
- That monetary decisions shall be based on best professional approaches, be well founded and be consistent with the Bank's objectives.
- That the decision-making process shall enhance the transparency of monetary policy and facilitate its presentation.
- That the assumptions and arguments behind individual decisions, and the way in which they were taken, shall be made known afterwards."

By law, the three-member Board of Governors has the authority to make monetary decisions. It is also responsible for the Bank's inflation forecast and its evaluation of the economic situation and prospects. Other people involved in the process are in an advisory capacity. An inflation forecast is made on a quarterly basis, prepared at the Bank's Economics Department. The forecast is published in the Bank's quarterly *Monetary Bulletin*, along with its evaluation of the economic situation and arguments in support of the policy at each time. The Board of Governors holds at least monthly meetings with several of its chief executives in order to assess economic developments, the economic outlook and whether monetary policy is consistent with the target or not. The Bank also publishes a press release every time that interest rates are changed, including arguments in support of the decision.

Of course, the Central Bank's work in this field is still being developed. The Bank is working on building up its activities in economic monitoring, forecasting and evaluation of expectations of economic agents. On several points the Bank's procedural rules diverge from what many economists regard as the best practice. An example is that the Central Bank of Iceland is the only central bank fulfilling all conditions for classification as being on an inflation target that does not hold publicly announced meetings to decide interest rates.[18] The Bank considered it imprudent to hold such meetings while the first steps were being taken in a new system, but has announced that it views this as a possibility in the future when the current arrangement has become more firmly consolidated. One argument against such meetings is that they conceivably create tremors in the markets around the time they are held. However, there are several arguments in favour of meetings. Firstly, they would enable the Central Bank to provide better explanations when it decides to keep interest rates unchanged, while press releases are only issued at present when it changes interest rates. Secondly, they would relieve the Central Bank from continual discussions at unscheduled times about whether it is going to change interest rates, since it could simply refer to the date of the next meeting. Thirdly, they would contribute towards a more transparent monetary policy since all market participants would know when they need to assess probable Central Bank measures.

Ladies and Gentlemen:

Central banking has been making major advances in recent years and decades. This evolution will continue. The Central Bank of Iceland, fortunately, has been heavily influenced by theoretical advances and international developments. It will therefore certainly go on evolving and changing in the future.

17. See *Monetary Bulletin* 2002/1.

18. See, e.g. Schmidt-Hebbel and Tapia (2002).

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