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Inflation-targeting after the financial crisis*

This coming Sunday is Pentecost, "the day of rejoicing", to quote Esaias Tegnér. And it is certainly easy to rejoice at the season and see green shoots springing up, the result as Tegnér writes, of "the friendly flames of the Spring-sun", even in the economic statistics. For a long period of time now we have had a development where production and the labour market have been improving, but inflation has been too low. This has also affected expectations of inflation in the longer run. The Riksbank has cut the repo rate and its forecast for the future repo rate to very low levels to bring up inflation, as well as purchasing government bonds to make monetary policy even more expansionary.

It appears as though this policy has had an effect. But we are not home and dry yet, which is shown, for instance in the unexpectedly low inflation outcomes in April. It takes time until inflation is back at a level around the inflation target and there is still spare capacity in the economy and scope to increase activity further. The risks of a setback in economic activity should not be underestimated either. As we Executive Board members pointed out, we are always prepared to make monetary policy even more expansionary if we assess that the upturn in inflation is threatened.

But even if the focus of the debate in Sweden is now of necessity on current monetary policy, we must not lose sight of the longer perspective. There is a lively international debate on whether, and if so how, inflation targeting should be changed in the wake of the financial crisis and the ensuing period of a long-drawn out economic recession, very low inflation and very expansionary monetary policy. What do the past eight years mean for the functioning of the economy and for monetary policy? Will we return to the way things looked before the financial crisis? It is important that we also take time in the Swedish debate to focus on these fundamental issues so that the discussions of our own monetary policy framework remain well-informed and productive. This is important not least for the external evaluation of monetary policy in Sweden now being carried out on behalf of the Riksdag Committee on Finance.

There are many interesting question that are worth raising. One example that is of immediate interest in the Swedish debate is the question of whether mone-

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tary policy should have an explicit target for employment in addition to the target for inflation. This is one question that will be taken up in the external evaluation.

Today I intend to take up a couple of questions that I consider relevant to both the debate in Sweden and the international debate. The first question is what role monetary policy should play with regard to promoting financial stability. This is a question that is still raised as one of the most important ones in the international discussions on possible changes in the inflation-targeting framework, although in many countries this has been overshadowed by the recent low inflation figures. A second question that, for natural reasons, is always topical when discussing whether the inflation-targeting policy needs to be modified is whether the level of the central banks' current inflation targets – usually around 2 per cent – needs to be changed. This is also something that has been discussed quite a lot by academics and in various policy forums since the financial crisis. Internationally, the discussions have focused on the question of whether the target should be raised, while in Sweden the focus has instead been on whether the target has been set too high. I intend to address the arguments for both points of view and to give my own views on the subject.

Should monetary policy take financial imbalances into account?

But let me begin with the question of monetary policy and financial stability. One lesson from the financial crisis is that price stability is not sufficient to ensure financial stability in the economy. More specifically, the origin of the financial crisis showed that even in a relatively calm economic environment it is possible for financial imbalances and risks to build up and lead to disruptions spreading throughout the financial system and causing substantial costs to society.

After the financial crisis there has been intensive work around the world on producing tools that can be used to prevent these systemic risks from arising. And a largely new policy area has taken shape; macroprudential policy, which is responsible for these tools. In principle everyone agrees that this policy area is needed and it has begun to be implemented around the world with slightly different institutional set-ups. In Sweden, of course, Finansinspektionen (the Swedish financial supervisory authority) has been given the responsibility for the macroprudential policy tools.[1] On the other hand, the responsibility for the overall task of promoting a stable and smoothly-functioning financial system will be divided between Finansinspektionen, the Riksbank, the Government and the Swedish National Debt Office.

So macroprudential policy is intended to be the first line of defence in counteracting financial imbalances that can affect macroeconomic and financial stability. There is broad agreement on this. The issue now being discussed internationally, and on which the jury is still out, is how strong this line of defence can be and whether other policy areas may at least sometimes need to contribute

[1] See Ordinance (2013:1111) amending Ordinance (2009:3) with instructions for Finansinspektionen, which also clarifies that "[w]ith a solution in which Finansinspektionen has the main responsibility for financial stability instruments, it is ultimately the Government that is responsible." Questions regarding Finansinspektionen's legal mandate to introduce amortisation requirements have arisen recently, however, and it is important that they are resolved quickly.

to counteract this type of risk. A more specific question is whether monetary policy should also take into account risks linked to financial imbalances.[2]

Financial stability has great significance for monetary policy

There is no doubt that financial stability has considerable significance for monetary policy. Monetary policy largely acts via the financial markets and if these function poorly, monetary policy will have less effect on the economy and on inflation. Problems in the banks can also lead to problems in granting credit in general in the economy and thus to lower demand and lower inflationary pressure. But the effects on unemployment, growth and other aspects of the economy can be substantial, even if this does not extend to a full-scale financial crisis. If imbalances linked to credit-granting and asset prices build up that are unsustainable in the long run, there is a risk that the economic downswings will be deeper and more prolonged.[3]

Given the links between the areas, there are arguments in favour of monetary policy taking into account risks linked to financial imbalances. This is actually nothing new. Such arguments were put forward even before the financial crisis, although the debate then concerned "bubbles" on the stock market or property market. Some said that monetary policy should react to such sharp rises in asset prices, over and above the impact the upturns have on the prospects for inflation and economic activity. But the predominant opinion was that this is not something that monetary policy should do. One argument was that it is too difficult to identify bubbles and that in practice it may make things even worse if one tries to counteract them.[4] The fact that the earlier consensus view is now up for discussion is of course due to the experiences from the financial crisis that show that the economic costs to society of financial imbalances can be substantial and that it is not so easy for monetary policy to "clean up" afterwards when the economy has suffered.

The inflation target is still the foundation

There are different ways of justifying why monetary policy should take financial stability into account. Different arguments lead to slightly different conclusions regarding exactly how inflation-targeting should be adapted. Should, for instance, financial stability be included as a new objective for monetary policy, together with price stability and macroeconomic stability?[5] Or can the objectives, as before, apply to price stability and macroeconomic stability but with consideration to financial stability included in the prospects for these two quantities in the slightly longer run?[6]

Theoretically, there may thus be some differences between different ways of including consideration of financial stability in inflation-targeting. In practice, I do not think the differences are so large – regardless of the underlying reason, the results are in practice that monetary policy is slightly adjusted to counteract potential imbalances on the financial side of the economy.[7] It may be worth

[2] See, for instance, Blanchard (2015). A survey of the debate is provided by, for instance, Smets (2013).
[3] See, for instance, Schularick and Taylor (2012) and Jordà, Schularick and Taylor (2013).
[4] The arguments for and against that were put forward in the debate are summarised in Roubini (2006) and Posen (2006) respectively.
[5] See, for example, Billi and Vredin (2014) and Woodford (2012).
[6] See, for instance, Sveriges Riksbank (2013).
[7] In terms of communication, however, there may be some differences that are significant in practice.

pointing this out: a monetary policy that "leans against the wind" in this way does not actually scrap the inflation target and swap it for a target for asset prices or indebtedness. The inflation target is still the foundation. What this means is that in some situations monetary policy can be adapted so that it takes slightly longer for inflation to get back to the target that it would have done otherwise if one had not taken financial stability into account.

A necessary condition for being able to give such consideration is that confidence in the inflation target is firmly rooted and does not risk deteriorating because it takes somewhat longer for inflation to attain the target. A monetary policy that leans against the wind thus assumes that inflation expectations are firmly anchored around the target. It is probably also easier if inflation is not too far from the target to start with, as inflation expectations are to some extent affected by the current rate of inflation. Also, a deviation from the inflation target is in itself more costly the larger the deviation is.

Lack of practical experience

So what is the current status of the debate? For natural reasons, an important dividing line here is the view of macroprudential policy and how well it can function as a first line of defence. Can it efficiently manage to counteract imbalances arising, or is it doubtful whether it can do so alone? This is essentially an empirical question, so the route taken by the international debate in the coming period will to a great extent be determined by the practical experiences from macroprudential policy and the tools at its disposal. So far, these experiences are relatively limited.

Another important dividing line in the debate is the view of monetary policy as a tool to counteract financial imbalances. One argument that is often put forward *against* using monetary policy as such a tool is that it is far too blunt for this purpose and has limited effects on the risks one wishes to counteract. A monetary policy that leans against the wind therefore gives little "benefit", while the "cost" in the form of poorer price stability and macroeconomic stability is high. On the other side of the debate it has been pointed out that it is not necessarily a disadvantage that monetary policy is blunt, in the sense that it has a broad impact on the economy, as it then "gets in all of the cracks" and is difficult to circumvent.[8]

What the benefits and costs of using monetary policy to counteract financial imbalances will be is also an empirical question. Here, as well, the problem is that the practical experiences of a monetary policy that leans against the wind are still limited.

Should the level of the inflation target be changed?

Another question being discussed is whether the level of the central banks' inflation targets should be changed. The debate since the financial crisis has primarily concerned whether the target should be raised, but most recently there have also been arguments for lowering the target.

[8] Stein (2013).

Should central banks lower their inflation targets?

It appears to be mainly in the debate in Sweden that arguments in favour of lowering the target have been put forward recently.[9] But they have also arisen in other countries to some extent.[10]

A basic idea appears to be that underlying structural trends such as globalisation and digitisation comprise such strong adverse winds with regard to bringing up inflation that it is not worth trying. Instead of aiming to bring up inflation to 2 per cent, which will be difficult and risks causing other problems, one should therefore lower the inflation target, the argument goes.

Digitisation and globalisation can affect inflation...

It appears reasonable to assume that digitisation – defined as the digital technological developments and its spread to various areas of usage in the economy – will on the whole have a dampening effect on inflation, as it is usually measured.[11] Perhaps the most obvious and direct channel is price developments on certain products in the CPI's basket of goods, which is affected by the production costs of these products showing a falling trend due to technological advances making advanced electronic components increasingly cheap. This applies, for instance, to mobile phones and computers. This is a development that has been going on for a long time and it may well continue for some time to come.[12]

Another channel has an impact via the Internet and the matching and interplay between producers and consumers. Increased competition via e-commerce and greater opportunities for consumers to compare products make it more difficult for companies to raise their prices. A third possible channel is linked to new technology being used to replace labour. Although there have been fears that "technology will take away jobs" ever since the industrial revolution in the 18th century, they have not been realised. However, it is not necessarily a law of nature that technological advances always create at least as many jobs as they take away. The digital technology developments have made it increasingly profitable, and to an increasing degree possible, to replace human labour with machinery. It is probable that "technological unemployment" resulting from automation will become a more common phenomenon in the coming period than it has been so far, although this is of course something that remains to be seen. If this were to be the case, a lot more groups in the economy will experience downward pressure on their wages. This may, in turn, have a restraining effect on inflation.

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[9] See, for instance, Mitelman (2013) and Schück (2015).
[10] For instance, there appears to be a debate in New Zealand on whether the Reserve Bank of New Zealand's attempts to attain the inflation target of 2 per cent risk overheating the economy, see the New Zealand Herald (2015). The Governor of the Bank of England, Mark Carney, has claimed during a hearing in the House of Lords that during long-term positive supply shocks there may be reason to adjust the inflation target downwards, but he emphasised that this was currently only hypothetical reasoning, see House of Lords (2015). The Bank of Canada investigated in 2011 whether the inflation target should be lowered, partly from the view that the problems with incomplete indexing of nominal contracts could decline further, see Côté (2014). However, this was dismissed on the grounds that the problems linked to the policy rate reaching its lower bound more often would be too severe.
[11] For a more detailed review of the effects of digitisation on inflation, see the article "Digitisation and inflation" in *Monetary Policy Report*, February 2015.
[12] Digitisation-related products have contributed for a long time to keeping down CPI inflation, but the effect has been relatively smaller in recent years than before.

Globalisation, the acceleration of international trade and the integration of China and other developing countries into the world economy, has been an important underlying trend in the global economy and will probably remain so in the coming period. Like digitisation, globalisation affects the economy through many different channels. Perhaps the one that has been most in focus in the discussions on inflation is the downward pressure that results from industrialised nations increasingly importing cheaper goods from, for instance, China.[13] This essentially concerns cutting the price of import goods *relative to* prices of domestically-produced goods, while inflation is a change in the general price level that affects *all* prices. However, cuts in the price of a certain product can have an impact on average consumer prices during a period of time, in the same way as when the developments in digital technology make some products cheaper. From this perspective, increased imports from China and other low-wage countries can have a directly dampening effect on inflation in the short and medium-terms.[14]

There are probably reasons why the idea of lowering the inflation target has been put forward mainly in Sweden. Swedish inflation fell to low levels somewhat earlier than inflation in many other countries. Another important piece of the puzzle is that the low inflation is not considered to reflect a particularly poor development of the Swedish economy. It is therefore likely that one begins looking for other explanations for the low inflation. And if one then decides on the explanation that this is largely a matter of structural trends and that an inflation rate that is persistently below 2 per cent is compatible with a reasonable development of the real economy, it appears both possible and logical to lower the target. This is roughly the way I believe the reasoning works.

...but they do not determine inflation

This method of reasoning may intuitively appear reasonable, but I think it disregards a couple of important circumstances. Both globalisation and digitisation are underlying structural trends that can have a dampening effect on inflation. But even if this effect may continue over a long time, it is essentially temporary. One can say that these trends in principle function as prolonged positive supply shocks that affect the economy over a long, but nevertheless limited, period of time. However, the inflation rate does not depend on this type of trend or shock on the long run, but on how expansionary monetary policy is, regarded as an average over a long period of time. Inflation is, as they say, a monetary phenomenon. Let us assume the hypothetical case of two countries – one that is fully digitised and the other without any actual digital technology, let us say like Sweden in the middle of the last century. If the central banks in both countries conduct the same policy, there is no reason to assume that inflation would systematically be lower in the entirely digitised economy. On the other hand, it may very well be the case that there is downward pressure on inflation during the actual process when a country becomes increasingly digitised. But adjusting the level of the inflation target to the structural underlying

[13] The question of the effects of globalisation on inflation and monetary policy was discussed frequently in the years prior to the financial crisis. See, for example, the IMF (2006) and Mishkin (2009) for surveys.
[14] However, it is still unclear to what extent inflation in the industrialised nations was actually affected by this. According to empirical studies, the effects appear to be relatively limited, see for instance the IMF (2006).

trends that for the moment are influencing the economy does not seem like a good idea.

A related and equally important circumstance is that even if globalisation and digitisation can subdue inflation, this does not mean that they *determine* inflation – and transform the central banks into passive onlookers, without any opportunity to influence inflation over time. In practice, the central bank has the possibility to try to estimate how much digitisation and globalisation will dampen inflation and to compensate for this. This is what central banks with an inflation target do now. It is not always an easy task, I will admit, as knowledge of the quantitative effects of digitisation and globalisation is so far fairly limited. This also means that a monetary policy that tries to compensate for the effects of these trends on inflation will not always be right, but will sometimes compensate too much and sometimes too little. However, digitisation and globalisation are not different in this aspect from other factors that affect the economy and that the central bank must try to take into account.

My point is that structural trends that put downward pressure on inflation during a period of time do not necessarily mean that actual inflation will be permanently lower than the national authorities intend it to be on average. If one claims this, one is also implying that central banks and governments do not have the possibility to choose the level of the inflation target, but that this is something determined by structural conditions in the economy. Ultimately, one thus also says that inflation is not a monetary phenomenon, which does not concur with what is widely accepted today.

Important to maintain confidence in the target

A slightly milder interpretation is that one did not literally mean that the inflation target should be lowered, but that the Riksbank, and all other participants in the Swedish economy should accept that inflation will continue to undershoot the target over a long time to come – despite the fact that it has already been below the target for several years. The main reason would be that the expansionary monetary policy required to bring inflation up to the target would also contribute to a further increase in house prices and household debt. I have some understanding for these thoughts, but I consider that they disregard a number of important circumstances as well. I believe that above all, one underestimates the importance of maintaining confidence in the inflation target and the problems that can arise if this confidence is lost.

We have lived with an inflation target of 2 per cent for more than twenty years and few would claim anything other than that it has been a good system with good results for the Swedish economy. The Riksbank is the only instance that has the express task of trying to ensure that the inflation target is met. Of course, the Riksbank also has the task of "promoting a safe and efficient payment system", which should be interpreted as acting to ensure the financial system is stable and functions smoothly. But, as I have already pointed out, the latter is a task that the Riksbank shares with the Government, Finansinspektionen and the Swedish National Debt Office. Finansinspektionen has the responsibility for the macroprudential policy tools, which comprise the first line of defence with regard to counteracting the emergence of financial imbalances. As I have just mentioned, there is an international discussion on whether monetary policy may need to support macroprudential policy in certain situations. But I have also argued that one condition for this is that there is firmly-established

confidence in the inflation target. It is this confidence that creates the scope for monetary policy to take other issues into consideration.

Confidence in the Riksbank's inflation target has long been fairly firmly rooted. But what has happened in recent years is that inflation has fallen to very low levels, instead of beginning to rise towards the target as the Riksbank and other analysts have expected. The period with an inflation rate below the target has thus gradually become longer and longer. Parallel to this development, the long-term inflation expectations among economic agents have fallen. In other words, a risk began to gradually build up that the role of the inflation target as benchmark for price-setting and wage formation would begin to weaken – that the nominal anchor that has been an important part of the favourable developments in Sweden since the 1990s crisis would begin to slip.

Some say that the Riksbank should not attach any weight to this, but instead hold the repo rate at a higher level. However, I find it difficult to see how the Riksbank could deliberately ignore the risk that confidence in the inflation target, the linchpin of the inflation-targeting policy, begins to be undermined – something the Riksbank alone has the explicit task of preventing – to instead continue to try to counteract financial imbalances building up; a task for which others share the responsibility and have more tools to manage.

Should central banks raise their inflation targets?

Most of the post-financial crisis debate on the level of the central banks' inflation targets has been based on rather different trains of thought, as I mentioned earlier. Here the starting points has instead been that problems can arise if inflation and inflation expectations fasten at a too low level for too long. Many economists and debaters have therefore begun to ask whether the central banks' current inflation targets should therefore be raised.[15]

The idea behind the proposal can be described as follows. When an economy falls into a recession the central bank cuts its policy rate to boost demand and raise the too low inflation rate. If the recession is really deep, as during the financial crisis, the policy rate may need to be cut substantially. The average level of the policy rate largely depends on how high the inflation target is. If the inflation target is low, the average nominal policy rate is also low. This means that a low inflation target does not give very much scope to cut the policy rate before it hits its lower bound. The lower the inflation target, the more often one can thus count on the policy rate hitting this lower bound. Previously, it was assumed that the lower bound for the nominal interest rate was zero, but recently it has become clear that it is possible to have slightly negative policy rates.

Less risk of hitting the "near zero lower bound"

The higher the inflation target is, the greater the "buffer" monetary policy has if it is necessary to stimulate the economy – the nominal "close to zero rate" corresponds to a lower real interest rate. When the inflation-targeting policy was introduced in the early 1990s, a target of 2 per cent developed into something of a standard. The reason for the figure of 2 per cent was not that research had

[15] Examples are Blanchard et al (2010), Ball (2014) and Krugman (2014). Representatives of central banks have also taken up this issue recently, see Rosengren (2015), for instance.

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determined that this was the absolutely most appropriate level; it was probably more because this was the approximate level of inflation in most of the countries that began to introduce inflation targets and it appeared to be a reasonable figure in general. And until the financial crisis there was no real reason to question whether an inflation target of 2 per cent entailed a sufficient buffer for monetary policy.

However, since the crisis, many countries have cut their policy rates to the "near zero lower bound" and been forced to change over to other, more unconventional means of conducting monetary policy, sometimes for several years. If the inflation target had been set higher from the start, there would have been a greater possibility to stimulate the economy in the normal way, through lower real interest rates. It is possible that the effects of the crisis would then have been less and it would have been easier to emerge from it into a more normal situation, some people argue.

Many say that the motives for a higher inflation target have recently been reinforced and are not merely linked to the fact that it would be easier to extricate oneself from crises. They say that it is not merely that the world has suffered an unusually large financial crisis and is now having to deal with the repercussions. Moreover, there is an underlying structural development that has meant that large parts of the world have entered a state of so-called secular stagnation. What this normally means, expressed simply, is that the neutral, or natural interest rate – the interest rate that has neither an expansionary nor a contractionary effect on the economy – has fallen and become very low, perhaps even negative. It may be difficult for monetary policy to stimulate the economy sufficiently in this type of situation, as it requires that the real interest rate – the nominal interest rate minus inflation – to be lower than the neutral one. Achieving this becomes more difficult when the nominal interest rate is at the "near zero lower bound" and when inflation is low and falling, which keeps the real interest rate up.[16] If the neutral interest rate is persistently low, monetary policy will more often hit the "near zero lower bound".[17] However, it is an open question whether the world is suffering from the prolonged but nevertheless transitory after-effects of an unusually widespread crisis or is caught in a more lasting state of secular stagnation.[18]

The difference between introducing a target and changing it

The arguments in favour of raising the inflation target may appear fairly convincing on paper. But there are considerable practical objections. The feeling one gets is that the starting point for the analysis is often: "Assume that the world had looked different than it does now – that is, the inflation targets had been higher". Then, one observes, developments would probably have been more favourable than they actually were. But in this case the challenge mainly concerns how the *transition* from one world to the other will be attained. Setting an inflation target for the first time is one thing, but changing a target that has become established is quite different.

[16] For a definition of secular stagnation and a summary of empirical evidence and policy implications, see Rawdanowicz et al (2014).
[17] See, for example, Krugman (2014).
[18] See, for example, Hamilton et al (2015) and Rogoff (2015), who say that the world is in the adjustment phase of an unusually large debt cycle, a "debt supercycle". See also the debate between Bernanke (2015) and Summers (2015).

If one is to change the level of an inflation target, I believe the easiest and most efficient way would be to do so in a relatively normal situation – when inflation is not too far from the original target and the economy is not in a crisis or otherwise in a difficult situation. If, for example, one raises the inflation target in a situation where inflation is much higher than the target, there is a risk that this will be perceived as giving in and taking the easy way out and that one will be expected to continue doing this the next time there is a problem. There is a corresponding risk if one lowers the target when inflation is undershooting the target by a long way, even if there are of course limits as to how low one can set the target. Sooner or later expectations would probably adjust to the new target, but the adjustment period could prove costly.

I also believe that it may be difficult to raise the target in a situation where inflation undershoots the target significantly, particularly if the central bank has cut the policy rate to the "near zero lower bound", that is, the level at which may countries are now. Here there is rather a risk that the increase will be perceived as a more or less desperate and in the worst case not particularly credible measure to obtain a little additional help getting out of a difficult situation. Apart from the best time to change the inflation target being in a relatively normal situation, I would also think it would be easier if several central banks did it at the same time.

Financial crisis has affected the central banks' analysis and working methods

I have given some examples of questions that will probably continue to be argued in the international discussion of how inflation-targeting may need to be adapted and modified. This type of fundamental question of principle is central to monetary policy and, given that the current framework for inflation-targeting has worked well over a long time, any changes should be made slowly and cautiously – and are hardly in the pipeline in the near term. Quite simply, we will have to see what takes shape after the international discussions. In the Swedish debate we need to begin by taking a stance on the conclusions of the external evaluation of the Riksbank's monetary policy that is published next year.[19]

But even if the experiences of the past eight years have had limited impact on monetary policy strategies so far, the financial crisis has nevertheless had clear effects on the work of the central banks. If I use the Riksbank as a starting point, for instance, the significance of the financial conditions for macroeconomic developments and for monetary policy have come under much greater focus than before, as have financial and banking questions in general. One can see this in the research conducted in the bank, where these areas are currently of central importance. The changes we recently made to our Monetary Policy Report are also marked by the need to better highlight the links between financial conditions, the macroeconomy and monetary policy. The low inflation in recent years has of course also made its mark on our internal work and we have invested considerable resources in trying to understand which factors lie behind it – both from a short-term perspective and in a more structural perspective.

[19] The Riksdag Committee on Finance's external evaluation of monetary policy in Sweden 2010–2014 will be completed towards the end of the year and will be processed by the Committee and the Riksdag in 2016. See further Riksdag Committee on Finance (2014a,b).

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So, to conclude by returning to the question of whether everything will go back to the way it was before the financial crisis, I think the answer depends on what one is talking about. When it comes to analysis and working methods, the answer is very clear: they need to be adapted to new experiences and changed conditions to remain relevant. This type of change can be difficult to see for outsiders, but I can assure you the changes are taking place. With regard to major changes in the actual inflation-targeting policy, the answer is not so clear-cut. This remains an open question that spans legislation, research and all those working with monetary policy.

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