

Preliminary version
7 September, 2009

The Executive Board of the Riksbank and its work on monetary policy – experiences from the first ten years¹

By²
Mikael Apel,
Carl Andreas Claussen and
Petra Lennartsdotter

Just over ten years ago the price stability target was confirmed by law. At the same time an Executive Board was appointed, consisting of six members employed full-time to make decisions on monetary policy issues and to govern the Riksbank. In our essay we first describe the background to the establishment of an Executive Board and some characteristics of the Board's working methods during the first decade. The majority of the essay then discusses the results of a unique survey where we have asked all members who have served on the Board questions about their experiences. It turns out, for instance, that many members consider the Executive Board to be slightly too large. Another result is that despite the members acting as individuals, there appears to be considerable willingness to compromise when the interest rate decisions are made – many members have sometimes refrained from entering reservations and say that there is a “bargaining margin” in the interest rate decisions.

Ten years of a statutory price stability target and an Executive Board

On 1 January 1999 the laws governing the Riksbank's activities were radically amended. The monetary policy objective of maintaining price stability was now also put in print in the law. At the same time the management structure of the Riksbank was altered in that an Executive Board with six full-time employees was appointed to govern the Riksbank and to decide on monetary policy issues. The law text also contained an express ban on public authorities trying to determine how the Riksbank shall decide in monetary policy matters.

The purpose of the amendments to the law was to reinforce the Riksbank's position and make it more independent. According to the bill that formed the basis for the decision, there were two reasons for doing so (Bill 1997/98:40, *Riksbankens ställning (The position of the Riksbank)*, p. 48). Firstly, it was considered easier for an independent Riksbank with a clearly-stated price stability target to give monetary policy the long-term perspective required to give credibility to the target. Secondly, as a result of EU membership, Sweden had undertaken to reinforce the Riksbank's independence – a

¹ The opinions expressed in this essay represent the authors' personal opinions and cannot be regarded as an expression of the Riksbank's view on the questions concerned.

² All three authors are employed in the Monetary Policy Department at Sveriges Riksbank.

requirement that was of course also based on an ambition to promote long-term thinking and credibility for monetary policy.

Although the amendments in the law were in formal terms rather radical, one can to a great extent regard them as a codification of the existing practice. The inflation target, which had been introduced in 1993 at the initiative of the Riksbank, was already well established. During the entire period with an inflation target the Riksbank had also in practice been able to act with a high degree of independence. Although political representatives had from time to time commented on and criticised monetary policy, the support for interest rate decisions being made by the Riksbank without political intervention had increased and was firmly rooted by 1999. In this sense the amendments in the law entailed no major differences in conducting monetary policy in practice, but could be regarded more as an insurance that the present system would continue to apply.

The amendment that had the largest practical consequences was the appointment of an Executive Board. From June 1994 the system had been that the Governing Council of the Riksbank, of which the Governor of the Riksbank was a member, made decisions regarding what was known as the interest rate corridor, that is, the Riksbank's lending and deposit rates. The Governor of the Riksbank then decided where in the interest rate corridor the repo rate would lie (Hörngren 1994).

This meant that even before, the interest rate decisions had been made, or at least strongly influenced, by a group of persons, at least on paper. However, unlike the Governor, the other members of the Governing Council were not full-time employees of the Riksbank and they often had other time-consuming assignments in addition to monetary policy. Therefore, the Governor's views probably carried considerable weight when the decisions were made.

After 1 January 1999 these conditions changed fairly radically. The decisions were now to be made by a committee of six full-time employees voting on the interest rate. The Governing Council instead became the General Council, with a controller function and with the main task to appoint the members of the Executive Board.

Sweden is far from the only country to have introduced a system where the monetary policy decisions are made by a group of persons. During the past ten to fifteen years there has been an international trend towards allowing monetary policy to be determined by a committee rather than by an individual central bank governor.

With regard to monetary policy decision-making in committees, one can say that "practice has been ahead of theory" in the sense that the research has not begun in earnest until after the fact, after the committees have begun working. Today there is relatively widespread and growing research into different aspects of monetary policy decision-making by committees.

Given the interest in this subject, it is somewhat surprising that no one has yet systematically surveyed people who have taken part in monetary policy committees with regard to their experiences. This is what we have done as part of this study. We have asked all of the people who have been members of the Executive Board of the

Riksbank during some period since its inception in 1999 – a total of 13 people – to respond to a questionnaire. The questions in the survey largely concern subjects that have been discussed in the research literature and may, for instance, aim to examine how well the members of the Executive Board feel that a particular theory fits in with their own experiences. The responses thus relate research to the views of practitioners in a way that has not been done before. The results of the survey are described in the second part of this study. First, however, we shall examine some specific characteristics of the Riksbank's Executive Board and its way of working during the first ten years.

The Executive Board: Background and characteristics

Why an Executive Board and why six members?

One explanation for the international trend of delegating monetary policy decision to a committee rather than to an individual central bank governor is that the central banks have become increasingly independent. Previously, when the central banks were often more or less agents of the government, there was little reason to appoint more than one person to make the interest rate decision (Blinder 2007). As the central banks have become more independent it has probably also been perceived as more appropriate from a democratic point of view to delegate the monetary policy decisions to a group of people rather than to one individual.

Another explanation could be that groups tend to make better monetary policy decisions than individuals. There is some support for this theory in the research. For example, Blinder and Morgan (2005, 2008) and Lombardelli et al. (2005) find in experiments where students make simulated monetary policy decisions that the decisions are better if made by a group than if made by individuals.

In the bill that forms the basis for the amendments to the law in Sweden in 1999 there does not appear to have been any consideration given to delegating the monetary policy decisions to one individual central bank governor. The starting point appears to have been to find a solution that was relatively close to the previous system with a Governing Council (although during the period with a Governing Council the governor had a decisive influence over the interest rate decisions). For instance, it is said that: "In a situation where the role of the Governing Council is severely limited and the responsibility for monetary policy and other ESCB³-related issues is transferred to the Executive Board, it seems appropriate to introduce a more collegial decision-making system where the Governor of the Riksbank is *primus inter pares* (chairman)." (Bill 1997/98:40, *Riksbankens ställning (The position of the Riksbank)*, p. 70.) One interpretation is that the legislator gave great importance to the argument that decisions should for democratic reasons be made by a group of persons rather than by an individual.

The argument that the decisions on average are better if they are made by a committee also appears to have carried some weight. For instance, that the Executive Board was to consist of six members was justified by stating that it will thus have "the

³ The European System of Central Banks, that is, the cooperation body that consists of the European Central Bank and the National Central Banks of the countries in the EU.

requisite competence without being unnecessarily large”. However, this probably did not merely refer to the competence to make good monetary policy decisions, but also to the competence to manage the Riksbank as a whole.

The quotation above is the only actual explanation as to why exactly six members were chosen. It is also noted in the Bill that “it may be discussed whether an Executive Board consisting of one governor and two deputy governors might be adequate”. However the conclusion is drawn that “given that the Executive Board shall manage the Riksbank and be responsible for most of the tasks that were previously the responsibility of the Governing Council, the working group finds reason to consider an Executive Board that consists of a larger number of members”.

So what does the research have to say about the appropriate size for a monetary policy committee? As we have already noted, there is some support in the research that groups on average make better decisions than individuals. If this was merely due to a group’s total knowledge being greater than that of an individual, then the bigger the group the better. However, there are factors which mean that the advantages with increasing the size of a monetary policy committee begin to decrease or may even vanish if the group becomes too large. It could be a question of the monetary policy process being more unwieldy and that it is more difficult to conduct a good monetary policy discussion in an overly large group. At present there is no consensus view as to what is an appropriate size for a monetary policy committee. The research appears to have resulted in the conclusion that 5-9 members is the preferable size (Ehrt and Vasquez-Paz 2007). In addition, the appropriate size of the monetary policy committee most likely varies according to the specific conditions prevailing in different countries (see, for instance, Berger et al. 2008). Internationally, the size of actual monetary policy committees varies from 3 persons in Switzerland to 22 in the ECB.

The size of the Executive Board of the Riksbank has been discussed occasionally since 1999. As early as 2000 the General Council proposed a review of the question of the size of the Executive Board. While awaiting this review the General Council proposed that the Sveriges Riksbank Act should be amended, setting the number of members Executive Board at a maximum of six and a minimum of three (General Council of the Riksbank 2000). However, the Riksdag (the Swedish Parliament) Committee on Finance rejected this proposal (Riksdag Committee on Finance 2000). The size of the Executive Board was also discussed in the evaluation of monetary policy in Sweden between 1995 and 2005 made by Francesco Giavazzi and Frederic Mishkin (2006) at the request of the Riksdag Committee on Finance. There it was stated that the Executive Board “could very well run with five or even four members” (p. 75). On this occasion both the Riksdag Committee on Finance and the General Council were negative to the idea of reducing the size of the Executive Board (Riksdag Committee on Finance 2007, General Council of the Riksbank 2007).

Emphasis on openness and clarity

When it became clear that an Executive Board with six members would govern the Riksbank with effect from January 1999 and would make decisions on the interest rate, preparations began internally to adapt the monetary policy decision-making process and communication to the new situation. Many of the guidelines laid down as part of

this work still apply and have made their mark on the Riksbank's activities over the past decade.

Something that was emphasized from the start was that the Riksbank would remain open and clear, or transparent, as it is usually termed, with regard to the assessments it made and why it acted in one way or another. Ever since the inflation target was introduced in 1993, openness and clarity had been guiding principles for the Riksbank. This was considered important, not least to quickly win confidence for monetary policy and the inflation target following the crisis at the beginning of the 1990s. The amendments to the law in 1999 made a high degree of transparency even more important. As observed in Heikensten (1999): "The strong statutory independence makes it extra important that openness is practised as much as possible and that what we do can be examined and evaluated." (p. 4).

To some extent the transparency was regulated in the text of the law. The Sveriges Riksbank Act Chapter 6, Section 4, states that: "The Riksbank shall submit a written report on monetary policy to the Riksdag Committee on Finance at least twice a year." Chapter 10, Section 3, states that: "Each year, before 15 February, the Executive Board shall submit an Annual Report of the Riksbank's activities during the preceding accounting year to the Riksdag, the Swedish National Audit Office and the General Council. (...) The Annual Report shall comprise (...) an account of foreign exchange and monetary policies and on how the Riksbank has promoted a safe and efficient payments system."

But beyond these paragraphs, the Sveriges Riksbank Act does not say very much about how transparent the Riksbank should be. The Executive Board has thus decided on its own initiative to be much more transparent than is required by law.

The Executive Board decided at its first meeting on 4 January 1999 that the minutes of its monetary policy meetings should be published. This has been done since October 1999, with a time lag of around two weeks. The minutes were to contain a review of the discussion conducted and information on the individual Executive Board members' final decisions. It was also decided that after the monetary policy meetings a press release would be published, containing a brief summary of the discussion. In the event of major changes in monetary policy and when Inflation Reports were published, the Riksbank would also hold a press conference. The members of the Executive Board would in addition give speeches, interviews and write articles.

The work on increasing the transparency of the policy has since continued in various ways. The Inflation Reports were gradually developed and in February 2007 replaced by Monetary Policy Reports, which also contain an in-depth account of the monetary policy deliberations. Forecasts are now published six times a year instead of the earlier four times a year. On three occasions this takes the form of a Monetary Policy Report, and on the other three it takes the form of a Monetary Policy Update, which contains forecasts for a more limited number of central macroeconomic variables. Clarifications of the monetary policy framework have been published on two occasions in the form of special documents – in February 1999 and in May 2006. Press conferences are now held after every monetary policy meeting and not only when the repo rate is changed, and the minutes of the monetary policy meetings, in addition to revealing how the

members of the Board have voted, now also attribute the contributions to the discussion to individual members. The two latter changes were made in May 2007. From May 2009 the Riksbank began to publish the voting figures directly after the monetary policy decisions. If any of the Board members have entered a reservation, it is possible to see who and their main reason for doing so.

One recent change that entailed the Riksbank joining a rather exclusive group of central banks, was when the Riksbank began publishing its own repo rate forecast in February 2007. At that time the only other central banks publishing interest rate forecasts were those in New Zealand and Norway. Since then the Icelandic and Czech central banks have decided to follow suit.

The Riksbank's continuous work on becoming more open and clear has received attention both in the academic world and from other central banks. Studies that try to measure the degree of transparency in central banks around the world place the Riksbank in the top drawer (Eijffinger and Geraats 2006, and Dincer and Eichengreen 2007, 2009).

The staff plays an important role in the monetary policy decision-making process

Fairly soon after the Executive Board came into force the monetary policy decision-making process also began to take form. The main features of the process have since then remained roughly the same.

The process of producing a Monetary Policy Report takes around six weeks, while the time required to produce a Monetary Policy Update is slightly less. A preliminary draft for the forecasts is produced at a relatively early stage by the Monetary Policy Department (APP) following a series of meetings. These meetings are primarily intended as working meetings for the staff at APP, but these days the members of the Executive Board are also invited to attend. At a meeting of what is known as the monetary policy group the draft forecasts are then presented to the Executive Board and the Board members give their views on this and ask questions. On the basis of these forecasts and other background material the Executive Board then tries to reach a view which a majority will probably be able to support and which may be presented as the main scenario of the Monetary Policy Report (or Update). APP continues its work and compiles a preliminary draft of the Monetary Policy Report (or Update) in close collaboration with the Executive Board. The editorial work continues until the monetary policy meeting and the texts are regularly checked with the members of the Executive Board. The staff are well-represented at most of the meetings held during the process and can take part in the discussions. At the monetary policy meeting, too, some higher officials may attend and may express their own views.⁴

Although the basic features of the monetary policy process have remained the same over the past decade, there have nevertheless been some changes. For example, in the previous system, one of the Executive Board members had special responsibility for

⁴ For a more detailed description of the current monetary policy decision-making process, see Rosenberg (2008) or Hallsten and Tägtström (2009). For a description of the earlier process, see Heikensten (2003).

preparing monetary policy issues. This means in practice that the member was slightly more involved, and at an earlier stage, in the monetary policy process than the others. As of January 2008 this responsibility has been taken over by the Head of the Monetary Policy Department.

Another change that has affected the internal work is that mentioned above, when the Riksbank in February 2007 began publishing its own forecast for the repo rate. In that the Riksbank was now more open about how it viewed future developments in the repo rate, it became necessary to hold more discussions internally about alternative future repo rate paths. The Executive Board therefore needed to take part in the forecasting work in a more concrete way than before, for instance, by being involved early on in the discussions of various risks and of possible alternative economic developments.

Although the interest rate decisions are of course made by the Executive Board, the staff plays an important role throughout the entire process. This has been a deliberate strategy right from the start. Heikensten (2003) writes for example: “In some aspects the Riksbank chose to go its own way. For example, the officials working on the background reports have a stronger position here than at many other central banks. They are requested to make an overall assessment of inflation, which is different from, for instance, at the Bank of England, where this is done by the corresponding body to the Executive Board, the Monetary Policy Committee. For several reasons we considered this a good idea. It is a question of both making good use of the competence of the staff at the Riksbank and of ensuring a form of continuity in the assessments. But it is also important for developing the competence of the staff and making their work more interesting.” (p. 363).

The Executive Board members’ own experiences – the results of a survey

In preparation for this paper, we sent a questionnaire to all current and previous members of the Executive Board since its start in 1999 – a total of 13 people. We received 12 responses.

The survey takes up a number of issues discussed in the growing literature on monetary policy committees. Thus, the focus is on the monetary policy part of the Executive Board’s work.

For most issues the members were asked to judge the relevance of particular statements on a four-grade scale. The scale range from “does not apply at all” to “applies completely”, or from “unimportant” to “very important”, or – if the question concerns how often an event has occurred – from “never” to “always” (see e.g. figures 1, 5 and 6). To be able to report the responses as an average we have coded the responses as 0,1,2 or 3. An average of, for instance, 2.5 can be interpreted to mean that the Executive Board members on average consider that the relevancy of a particular statement lies mid-between “applies to some extent” and “applies completely”.

Better decisions with a committee

There are mainly two explanations for the international trend towards having monetary policy decided by a committee rather than an individual. One is related to the fact that central banks have become more independent. Committee decisions enhance the democratic legitimacy of an independent central bank. The other explanation is that groups tend to make better monetary policy decisions than individuals. In the survey we asked the members of the Executive Board to express their opinion, based on their experiences of conditions in Sweden and of the Riksbank's Executive Board, on the following two statements:

“To gain sufficient acceptance among the general public and politicians for a system where the Riksbank is independent it is required that the monetary policy decisions are made by a group of persons and not by an individual.”

and

“Over time the monetary policy decisions will be better if they are made by a group of persons instead of by one individual.”

A large majority of the members responded that both statements “apply completely”. There was little variation in the responses and the average scores were 2.5 and 2.8 respectively.

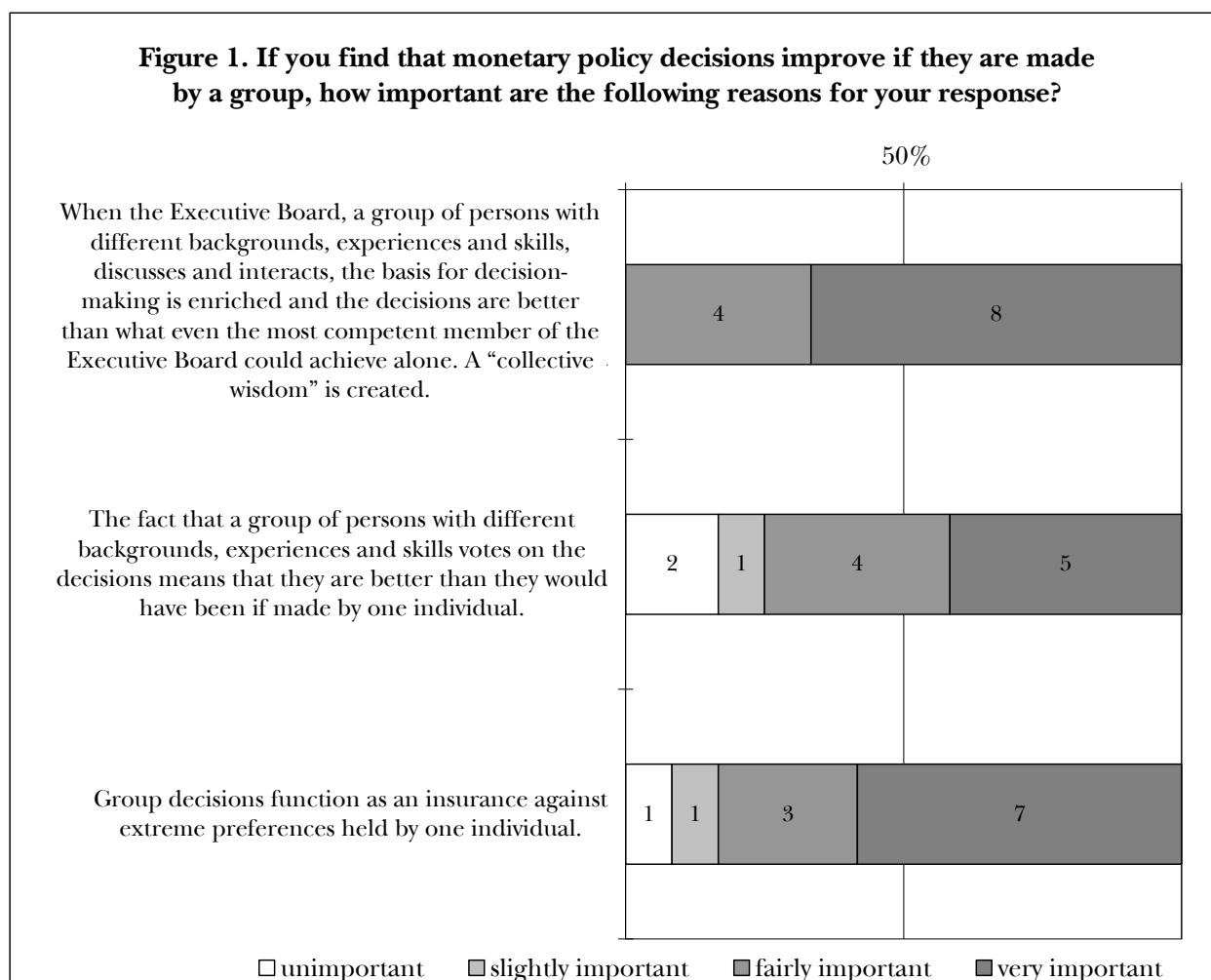
Thus, the members find that the interest rate decision on average are better if they are made by a group of people – which, as noted above, is also supported by research results. But why, more specifically, would this be the case? We asked the members to rate the importance of three reasons for this. The first was that the decisions are better when a group of people with different backgrounds, experience and knowledge *discuss and interact* prior to a repo rate decision. One could express this as the monetary policy committee “pooling” its experiences and knowledge through the discussions and that the decision can thus have a better and broader foundation.

The second reason was that the decisions are better if a group of persons with different backgrounds, experience and knowledge *vote* on the repo rate. Unlike the first reason, it is the actual voting that is central rather than the discussion and interaction between the members prior to the decision.⁵

The third reason was that if the decisions are made by a group of people, this functions as an *insurance* against extreme preferences held by one individual. For example, this could be a central bank governor wanting to keep inflation down at any cost, without giving any consideration to the real economy, or the reverse, taking the task of combating inflation too lightly.

⁵ One could say that this is an application of Condorcet’s jury theorem from the end of the 18th century, which states that a committee which makes decisions (between two alternatives) by a majority rule has a greater probability of making the best decision than any of the individual members would have if they acted on their own. The theorem also states that the probability of making the right decision approaches one when the number of members on the committee approaches infinity.

All three reasons are regarded as good explanations as to why interest rate decisions are better on average if made by a group of people, see Figure 1. The first statement – that the decisions are better because the Executive Board discusses and interacts – appears to be the most important; all of the members considered this to be “fairly important” or “very important”. The average scores were 2.7, 2.0 and 2.3.



Staff more important than colleagues

The stylized picture of how monetary policy decisions are made looks something like this: A group of initiated people sits down and discuss the appropriate level of the policy rate. Arguments are put forward and discussed, knowledge and experience are “pooled”, and the group gradually reaches a view that most can support. The discussion is central to the quality of the decision.

As can be seen from the responses in figure 1, the Executive Board members consider the discussion prior to a repo rate discussion to be important. But what does the “pooling” involve in greater detail?

To learn more about this we asked the members how important contributions from colleagues on the Executive Board have been for their own assessments regarding three different aspects:

- (i) The current economic situation and trends that the Riksbank is unable to influence, such as future oil prices and international economic developments.
- (ii) How the Swedish economy functions and thereby how things will develop if the Riksbank acts in one particular way or another.
- (iii) How quickly inflation should be brought back on target, that is, prioritising between stabilising inflation and stabilising the real economy.

In more technical terms the breakdown represents (i) the exogenous variables; (ii) the model and (iii) the preferences regarding stabilising inflation relative to stabilising the real economy (the relative weights in the monetary policy objective function).

We also asked about how important contributions from the staff have been with regard to these aspects.

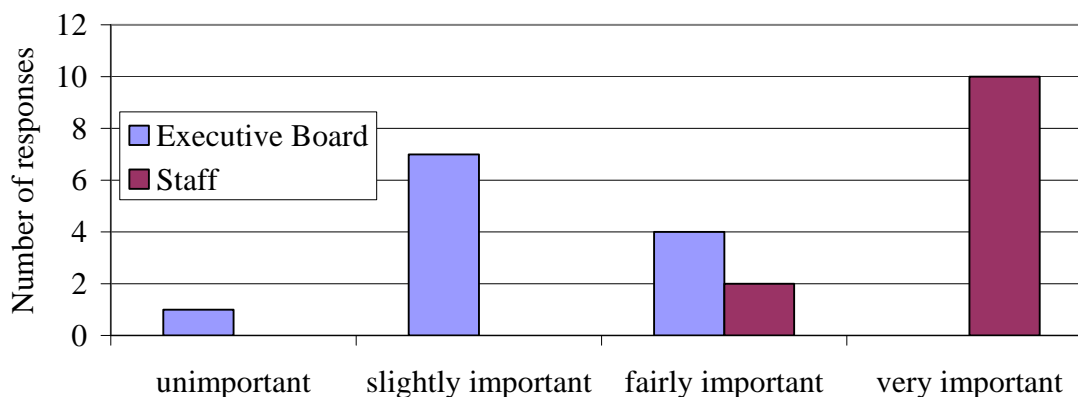
For all three aspects the most common response was that the colleagues were only “slightly important”, see Figure 2. The average points are generally low: 1.3 for (i), 1.6 for (ii) and 1.1 for (iii). The results contrast somewhat with the view that the monetary policy decisions are better because a group of persons with different backgrounds, experience and knowledge discuss and interact – a statement which was given relatively high points. The discussion within the Executive Board is thus considered important, but at the same time the colleagues' possibilities to influence one another's decisions appear fairly limited.

One reason for this could be the central role the staff plays in the monetary policy process. The responses indicate that the staff is important to the members' assessments regarding both variables that are exogenous in the forecast (point (i)) and how the economy functions and how things will develop if the Riksbank acts in one way or another (point (ii)). A large majority of the members considered the staff to be very important for their own assessment of (i) and (ii), see Figure 2. On average the points here were 2.8 and 2.5 respectively.

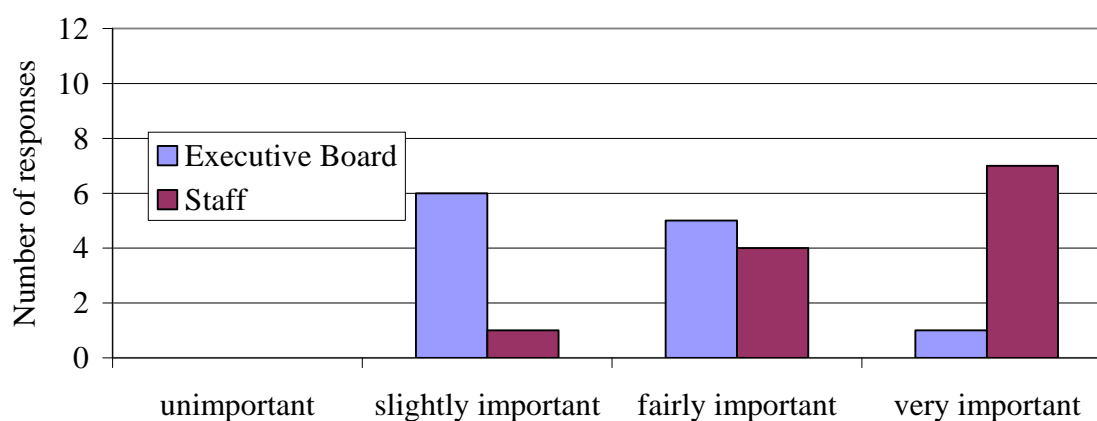
The importance of the staff for the members' assessment of how quickly inflation should be brought back on target, point (iii), is low (Figure 2). On average, the points for (iii) were 1.4. This reinforces the notion that the members' deliberations in this respect are to a great extent subjective and reflect their own preferences (we will return to this later on).

Figure 2. How important were/are your colleagues on the Executive Board to you...

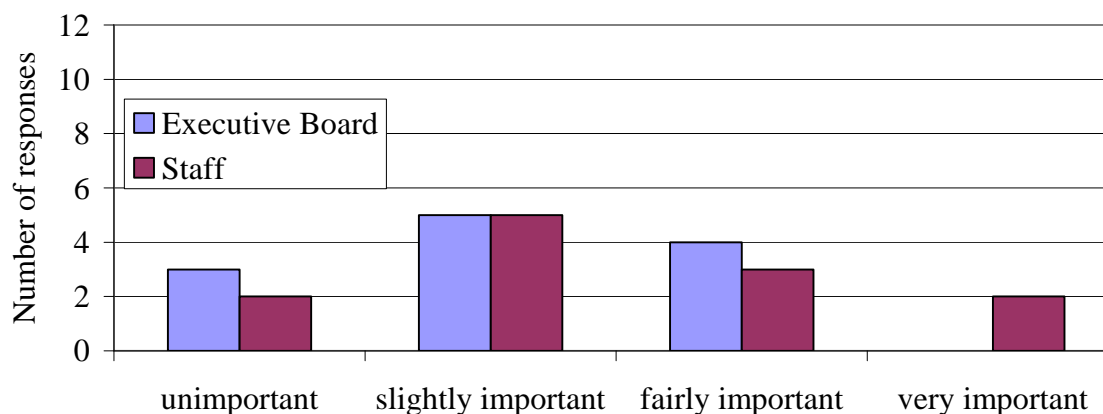
i)... as sources of information on the current economic situation and on developing trends that the Riksbank is unable to influence, such as the way the oil price and international economic activity develop?



ii)...for your view on how the Swedish economy functions and thereby how things will develop if the Riksbank acts in one particular way or another?



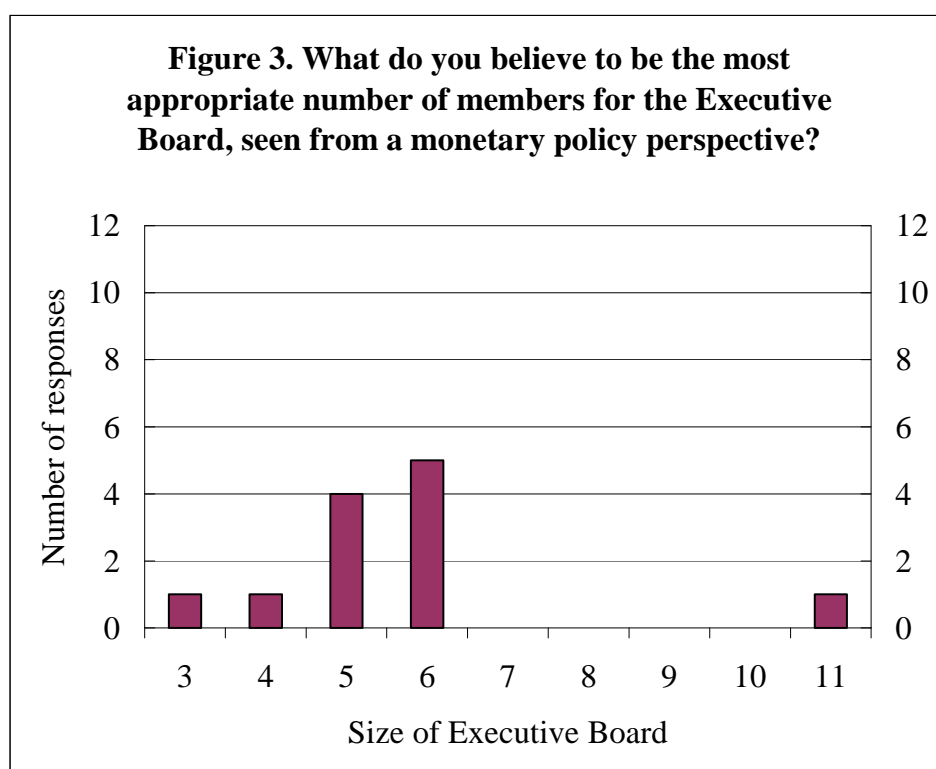
iii)...for your assessment of how quickly inflation should be brought back on target/prioritising between stabilising inflation and stabilising the real economy?



Several consider the Executive Board to be too large

What is the appropriate number of members for a monetary policy committee? This is a question that has been much discussed, as we observed earlier. We first asked if the members consider the Executive Board of the Riksbank – as a monetary policy committee – to be too small, appropriate, or too large. Six of the members considered the Executive Board to be too large, five appropriate, and only one considered it too small.

We then asked what they consider to be the appropriate size for the Executive Board, again from a monetary policy perspective. For those who considered the Executive Board too large the responses varied from 3 to 5 persons, see Figure 3. The member who considered the Executive Board too small thought an Executive Board of 9 or 11 members was appropriate. Several members also commented that the Executive Board should have an uneven number of members.

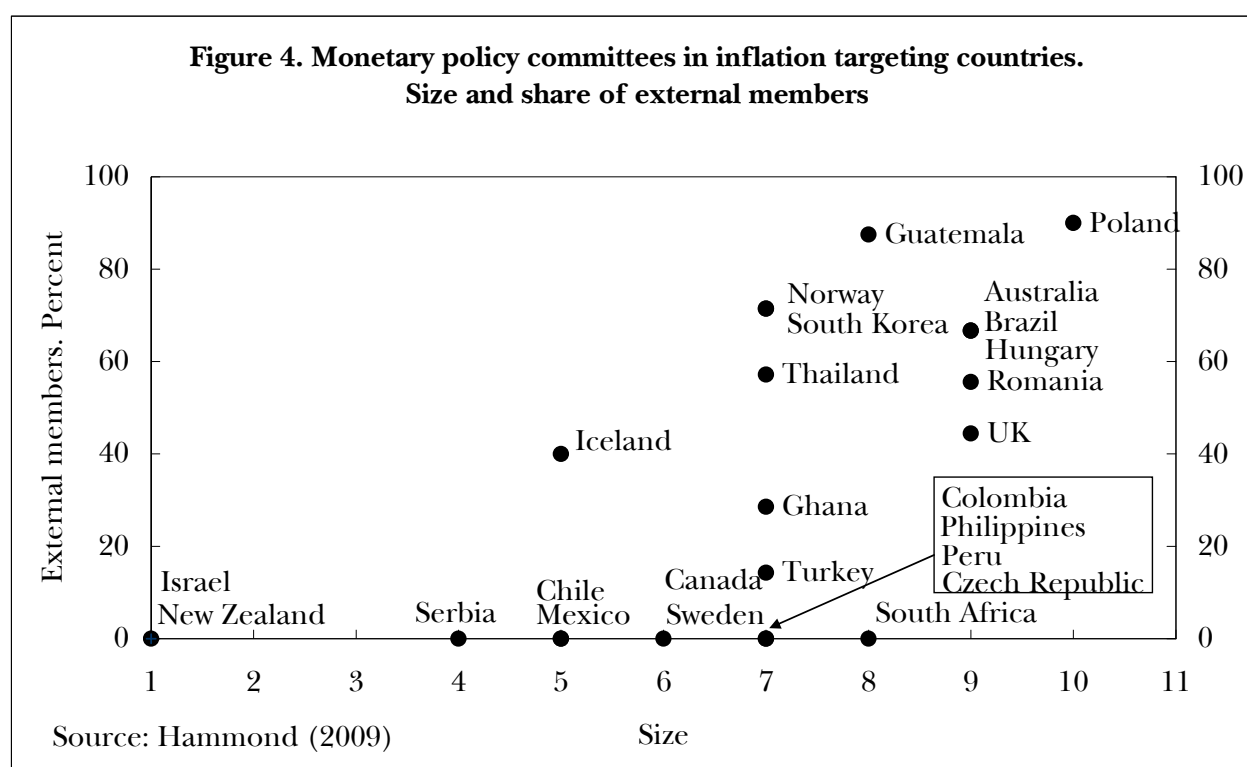


In an international perspective, the Riksbank has a relatively small monetary policy committee. Nevertheless, many members find that it can be reduced further. The members thus prefer a committee size in the lower region of the span of 5 to 9 members that the academic research points to as suitable.

Scepticism towards external members

The size of the monetary policy committees differs between countries. The composition of the committee also varies, see Figure 4. In some countries, for instance Norway and the UK some of the members of the monetary policy committee are

external and employed on a part-time basis. At the Bank of England the purpose of having external members is said to be “to ensure that the MPC benefits from thinking and expertise in addition to that gained inside the Bank of England”.



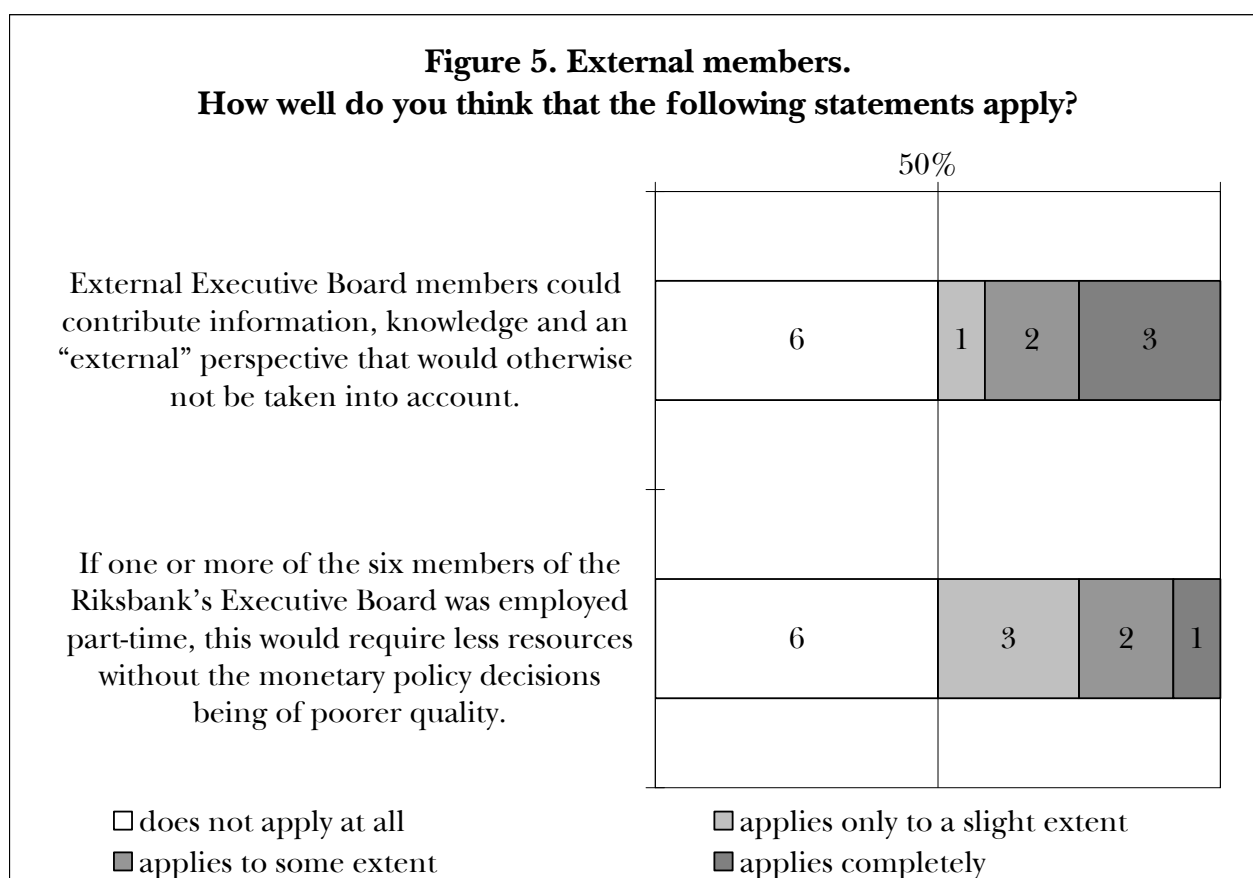
According to studies using voting data from the Bank of England's Monetary Policy Committee, the external members enter reservations against policy rate decisions more often and tend to prefer lower policy rates compared with the internal members (see for instance Gerlach-Kristen 2003, 2009).

In our survey we asked the members to judge two statements regarding external members, see Figure 5. The results reveal scepticism towards a solution where some Executive Board members are external, although opinions vary. Half of the members marked the alternative “does not apply at all”. However, several members considered that the statements “apply completely” or “apply to some extent”. On average the statements received 1.2 and 0.8 points.

The scepticism may indicate that most members consider there to be no lack of “external perspective” or risk of groupthink on the Riksbank's Executive Board. The members have different backgrounds and they may retain much of their own way of thinking and their own channels of information even during their period of office at the Riksbank. The fact that the Riksbank's policy from the start has been that the members of the Executive Board shall act as individuals and represent their own opinions externally may have reduced the risk of an overly narrow perspective.

The scepticism may also indicate that the members consider the process leading to the repo rate decision, with an intensive interaction with the Riksbank staff and within the

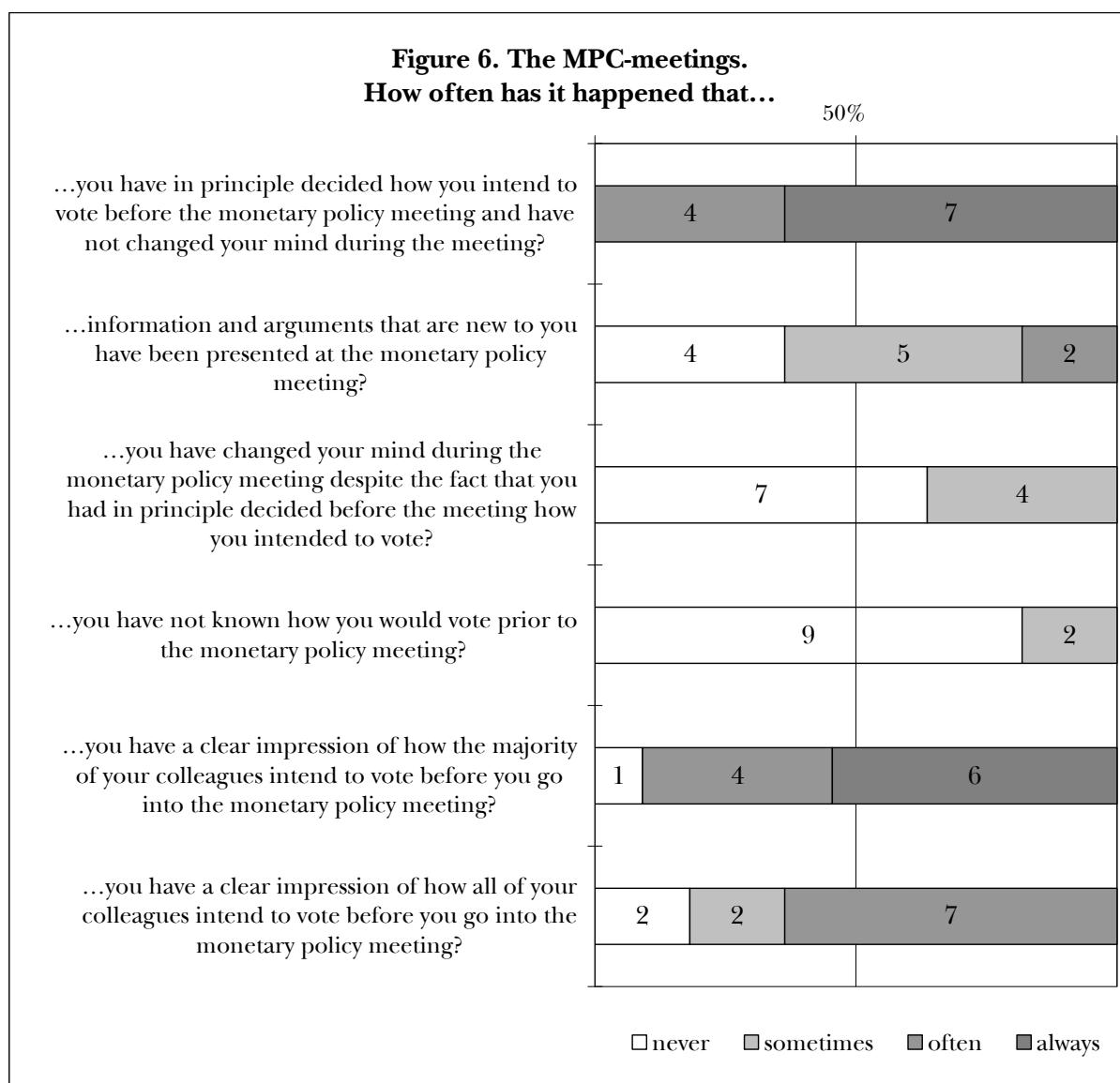
Executive Board, to be essential to a good repo rate decision. It may be difficult for someone who is not full-time at the Riksbank to fully participate in this process.



Much in place before the monetary policy meeting

To obtain more information about the final phase of the monetary policy decision-making process, we asked the members to stipulate the frequency of some incidences, for instance, how often they had decided how they would vote prior to the monetary policy meeting, or how often they had a firm idea of the other members’ views prior to the meeting. The alternatives in this case were “never”, “sometimes”, “often” and “always” (coded as 0, 1, 2 and 3).

Our results show that the majority of the members have *always* made up their minds as to how they intend to vote, and do not change them during the meeting, see Figure 6 (the average score was 2.6). It is very common that members prior to the meeting have a clear idea of how the majority of their colleagues intend to vote (average score 2.4). It is slightly less common that they have a firm idea of how *all* of their colleagues intend to vote (the average score was 1.5). It is unusual that new information or arguments come up at the monetary policy meeting (average of 0.8). Furthermore, most members never change their minds during the meeting (average of 0.2). It is very rare that members do not know prior to the meeting how they will vote themselves (average of 0.4).



On the whole the results show that although the final decision is made at the monetary policy meeting, most of the pieces are already in place prior to the meeting. This is not surprising, given the design of the monetary policy process at the Riksbank. The fact that a detailed and thorough Monetary Policy Report (previously an Inflation Report) or Monetary Policy Update is published at the same time as the repo rate decision is announced, explaining and providing the foundation for the decision made, means that it is necessary to work out forecasts and alternative actions on which a majority can probably agree prior to the monetary policy meeting.

As stated by Svensson (2009): “The discussion and exchange at the final monetary policy meeting do not start from scratch, but are the culmination and summary of [a long series of]...meetings. Therefore, one would not expect too much spontaneity but rather the presentation of the essential summaries and the reasons for the decision by each member.” (p. 26).

Changes at the last minute are of course always possible and there is a preparedness for this. As pointed out in Hallsten and Tägtström (2009), the work process is

designed so that the forecasts and the Monetary Policy Report can be changed after the meeting if a majority of the Executive Board so desires.

The way the members have perceived the situation prior to and during the monetary policy meeting is of course something that may have varied over time. The more intense and comprehensive the process leading up to the policy rate decision, the more likely it is that the members have a firm idea of their own and their colleagues' views, and the less new material will come to light at the actual meeting.

As we have noted above, both the method of working internally with the forecast and the method of communicating externally changed when the Riksbank began to publish its own forecast for the repo rate in February 2007. The monetary policy process, with preparatory meetings and interaction with the staff and within the Executive Board, then became even more intense and comprehensive than it was before.

One hypothesis is thus that the members who have been active on the Executive Board after the Riksbank began publishing its own repo rate forecast might perceive that even more is in place prior to the monetary policy meeting. We divided the responses into two groups – prior to and after the Riksbank began publishing repo rate forecasts and we examined whether the responses differed.⁶ The results appear to support the hypothesis. Members who had been active on the Executive Board after the Riksbank began publishing the repo rate forecast had more often decided how they would vote prior to the monetary policy meeting (the average scores rose from 2.4 to 3.0) and more often had a firm idea both of how the majority of their colleagues would vote (rise from 2.0 to 2.7) as well as how all of the others would vote (rise from 1.1 to 1.8). They also considered that new information and new arguments were rarely put forward at the monetary policy meetings (the average scores fell from 1.0 to 0.7), they more rarely changed their opinion during the meeting (fall from 0.4 to 0) and were more rarely uncertain as to how they would vote prior to the meeting (fall from 0.3 to 0).

We also put a follow-up question to the members, asking them to state why they had a firm idea of how the others intended to vote. Also the responses to this question support the hypothesis that publication of the Riksbank's own repo rate forecast has changed the monetary policy process and meant that more is in place prior to the meeting. Members who have served on the Executive Board after the publication of the repo rate forecasts considered that the others' views often became clear at the preparatory meetings, for instance, within the monetary policy group (the average points increased from 1.4 to 2.3) and less often from the members' public statements (average points fell from 1.3 to 0.5)⁷ or from the fact that the members have a predictable reaction pattern (from 1.5 to 0.8). However, the publication of the repo

⁶ Members with reasonably long experience of both conditions were asked to respond both with regard to the situation prior to the publication of the repo rate forecast and with regard to the situation afterwards.

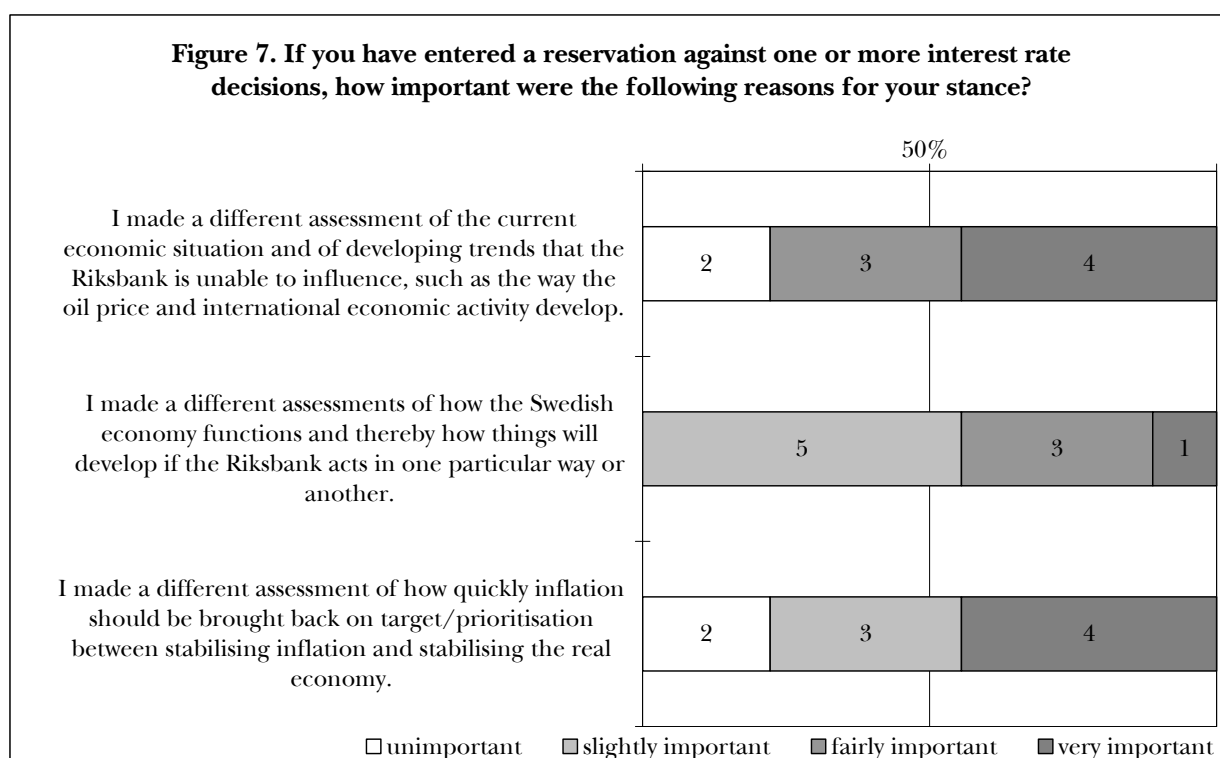
⁷ One important explanation of why this figure has fallen is probably that the Riksbank decided, in connection with the publication of its own repo rate forecasts, that Executive Board members would no longer "signal" in advance how they considered the repo rate should be set at the coming monetary policy meeting.

rate path does not appear to have had any effect on how common it is for the members to obtain information on one another's views in discussions outside of the meetings, in private or in groups (the average points were 1.4 in both groups).

Willingness to compromise despite many reservations

On average, approximately one in three repo rate decisions has not been unanimous. We asked the members to stipulate the importance of three alternative reasons for their reservations, see Figure 7.

There was large variation in the responses. For each alternative some members found the explanation “very important” and others found it “unimportant” or “slightly important”. If we look at the average points, the differences between the various alternatives were slight, 2.0, 1.6 and 1.7.



Although there have been many reservations, members might still *refrain* from entering reservations, despite having a different opinion from the majority. In such cases there is a risk that the diverging opinion will not be very well expressed in the minutes.

We asked the members whether they had refrained from entering a reservation against one or more monetary policy decisions, despite considering that another decision would have been better. A majority of seven members responded that they had. We then asked for the relevance of some alternative reasons for refraining from entering a reservation. One of these reasons was assessed as much more important than the others, namely that the majority decision was reasonably close to their own assessment and that there was a “bargaining margin” in the repo rate decisions. According to all but one of the seven members, this reason is “very important” (the average points are

3.0). The other explanations received low average points. However, some members state that they have refrained from entering a reservation out of consideration to the general public's confidence in monetary policy (average points 1.0) or to avoid creating unease in the financial markets (average points 0.4). One explanation that is dismissed by all is that the reservation would change the majority and this in turn would lead to costs for changing the forecasts and reports at the last minute.

The Executive Board of the Riksbank is usually referred to as an individualistic committee (Blinder 2007), where each of the members stands for his or her own opinion and communicates this externally. In this type of committee disagreement is natural. Nevertheless, our results show that there is willingness to compromise. The members' own views must differ sufficiently from the majority view before they enter a reservation. The members "choose their battles". Thus, there is some collegial element in the committee. The results probably also relate to the fact that monetary policy is not an exact science.

The Governor's influence appears to have declined

During the Executive Board's first decade, all members except the governor had entered a reservation at least once.⁸ Why has the Governor never entered a reservation (been in a minority)? One explanation could be that the Governor holds the casting vote if the outcome of the voting is completely even. The Governor has used the casting vote on four occasions. But even if four votes are required for the Governor to be in a minority, it nevertheless appears somewhat surprising that this has never happened.⁹

We asked the members to stipulate the relevance of some explanations to why the Governor of the Riksbank has never been in the minority: The Governor has more influence over the forecasts and other materials on which the interest rate decisions are based than the other members of the Board. As the chairman at the monetary policy meeting the Governor is in a particularly good position to influence the discussion, and thereby the interest rate decision. Many members find it worthwhile to show unanimity and therefore support the Governor's view, given that it is reasonably close to their own assessment. The Governor finds it worthwhile not to be in a minority and therefore supports the majority view, given that it is reasonably close to his own assessment. The members were finally also asked to react to whether they considered it merely a coincidence that the Governor had never been voted down.

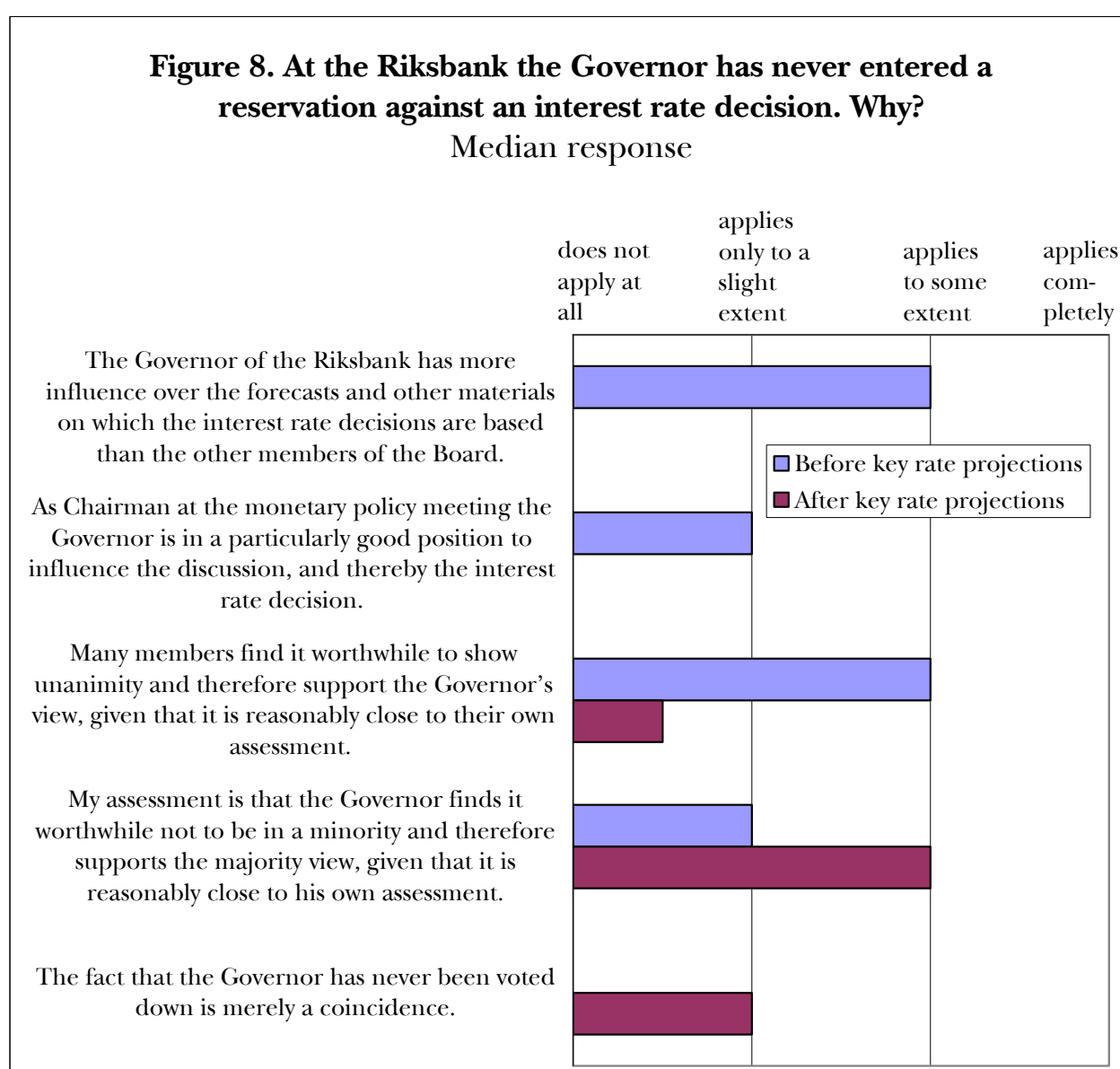
The members did not consider any of the explanations convincing. The hypothesis that the Governor of the Riksbank has greater influence over forecasts and other background material received an average score of 1.2 and a median of 1, where 1 represents "applies only to a slight extent". The explanations that members tend to support the Governor's views or the reverse, that the Governor tends to support the

⁸ The most recently-appointed member of the Executive Board, Karolina Ekholm, who joined in March 2009, had at the time of writing this not yet entered a reservation, either.

⁹ The results are similar for other central banks with individualistic committees. In the United Kingdom, for instance, the central bank governor has actually been voted down, although this has only happened on two out of 140 decision-making occasions (and where around 65 per cent of these have not resulted in a unanimous decision).

majority, received slightly higher scores – both an average of 1.5 and a median of 2 and 1.5 respectively (where 2 represents “applies to some extent”). The slightly higher scores for these statements can be said, like the earlier results for the question of why one has refrained from entering a reservation, to point to some willingness to compromise when making repo rate decisions.

There seems to be particular scepticism towards the hypothesis that the Governor as chairman at the monetary policy meeting can influence the discussion and thereby the interest rate decision (average score 0.8 and median 0.0). This result is well in line with the above result, namely that members have decided before the meeting how they will vote. The coincidence explanation is considered irrelevant (average score 0.7 and median 0.0).



The responses indicate that the role of the Governor has declined over time, see Figure 8. For example, the members consider that the Governor now has less influence over the forecasts and other background material (the median falls from 2

to 0, that is, from “applies to some extent” to “does not apply at all”), that he has less opportunity as chairman to influence the decision at the monetary policy meeting and thereby the interest rate decision (the median falls from 1 to 0), that other members to a lesser extent find it worthwhile to show unity by supporting the Governor (the median falls from 2 to 0.5), that the Governor to a greater extent finds it worthwhile to support the majority view (the median increases from 1 to 2) and that it is more likely that it is a coincidence that the Governor has never been in a minority (the median increases from 0 to 1).

Positive response to attributed minutes

In June 2007 the Executive Board decided that the minutes of the monetary policy meetings should contain the names of the members together with their contributions to the debate. The Riksbank is one of few central banks in the world (possibly the only one) to apply this practice. Previously, names of individual members were only revealed in association with the votes. The purpose was that the Riksbank would become even more transparent regarding the basis for the decisions made, as attributed minutes make it easier for external analysts to evaluate each member's analysis and reasoning and how consistent they are over time.

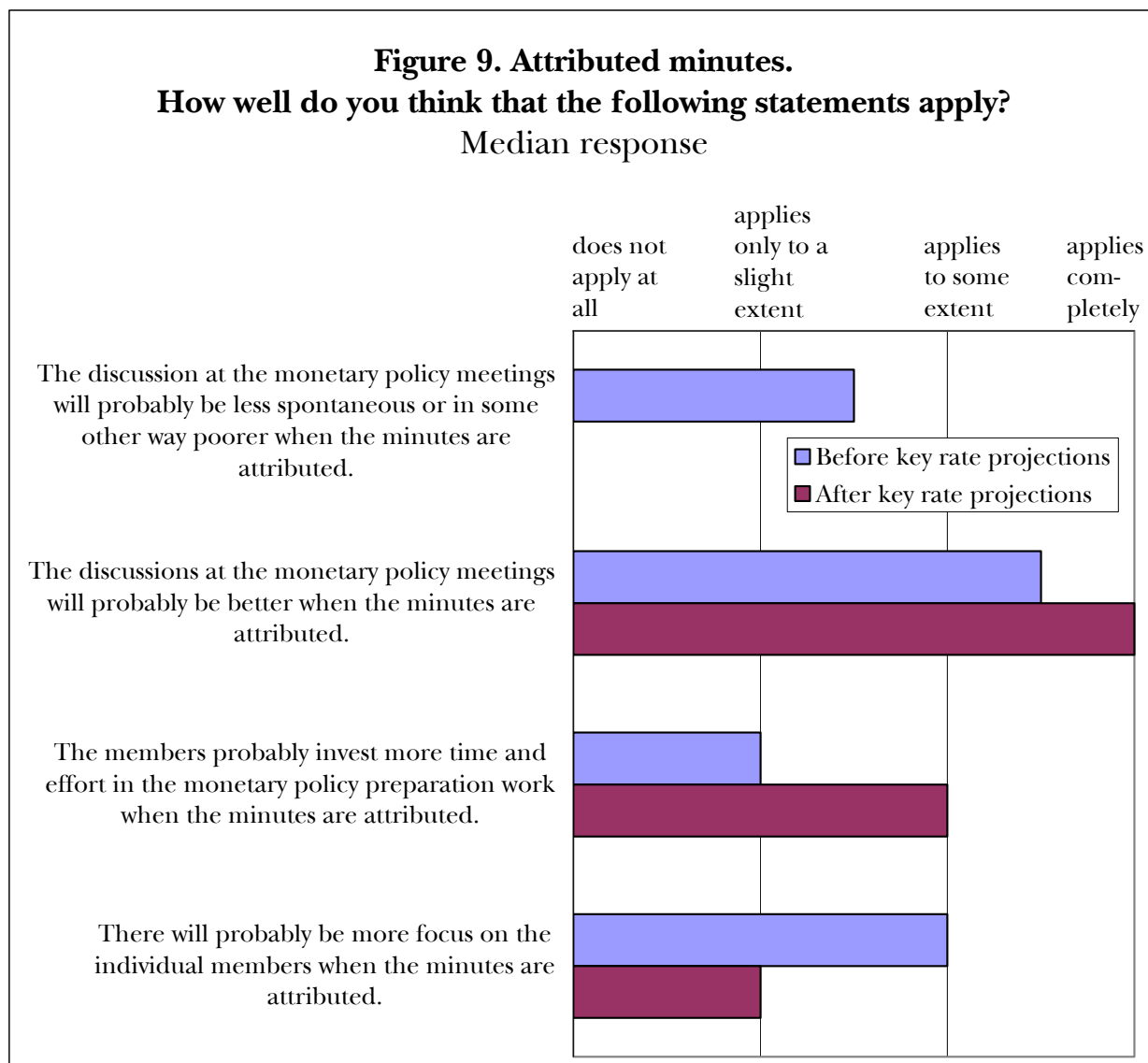
Exactly how transparent a central bank should be is debated both within academic research and in central bank spheres (see, for instance, Eijffinger et al. 2008). One argument that is put forward against publishing attributed minutes – and sometimes against publishing the minutes of monetary policy meetings at all – is that the discussion may then be more limited and “tied to a script”. One advantage of attributed minutes, apart from increasing transparency, could be that the members' individual responsibility becomes even clearer. This could in turn result in the members preparing even more thoroughly for the meetings (Gersbach and Hahn 2008). It could also reduce the risk of groupthink.

The members were asked to react to four statements: That the discussion at the monetary policy meetings would be more inhibited and less spontaneous or in some other way poorer if the minutes are attributed, that the discussion would be better with attributed minutes, that the members would invest more time and work in the monetary policy preparation work with attributed minutes, and that there would be more focus on the individual members with attributed minutes.

The statement that is clearly negative towards attributed minutes - that the discussion become more inhibited and less spontaneous - is the one that receives least support, with an average of 1.1 and a median of 1 (“applies only to a slight extent”). The statement that attributed minutes make the discussion better receives the most support, with both an average score and a median of 2 (“applies to some extent”). For the other two statements the median is also 2, while the average scores are 1.4 and 1.7 respectively.

If one examines the responses in the same two groups as before, prior and after publication of an own repo rate path (February 2007), which roughly coincides with the publication of attributed minutes (June 2007), it is clear that opinions appear to have changed slightly over time, see Figure 9. The members who actually have

experience of a system where the contributions are attributed in the minutes are much more positive than those who lack this experience.



The results are perhaps not surprising given that many of the members in the other group have taken part in the decision to introduce names into the minutes.

In this context there may also be reason for a reminder of the role played by the minutes at the Riksbank. As we have claimed above, the discussion at the monetary policy meeting can today be regarded as a summary of a long series of meetings where the members describe the reasons for the stance that they have in principle already decided on. It is conceivable that it was previously the case – which the responses to the questions on the repo rate decision to some extent imply – that the situation prior to the monetary policy meeting was previously not as clear. The discussion at the actual meeting may then have played a more important role and members with experience of this period only may therefore experience attributed minutes as more problematic.

Differences of opinion more informative than confusing

When communicating monetary policy, monetary policy committees have to strike a balance between two potentially opposing effects. On the one hand information on the opinions of the different members helps explain the monetary policy decisions and can make monetary policy more predictable. On the other hand uncertainty may increase if members give different, conflicting signals. As Blinder (2007) put it: “A central bank that speaks with a cacophony of voices may, in effect, have no voice at all” (p. 114).

We asked the members to judge the following two statements:

“That all members of the Executive Board can express their own views publicly as individuals makes the Riksbank’s communication less clear”,

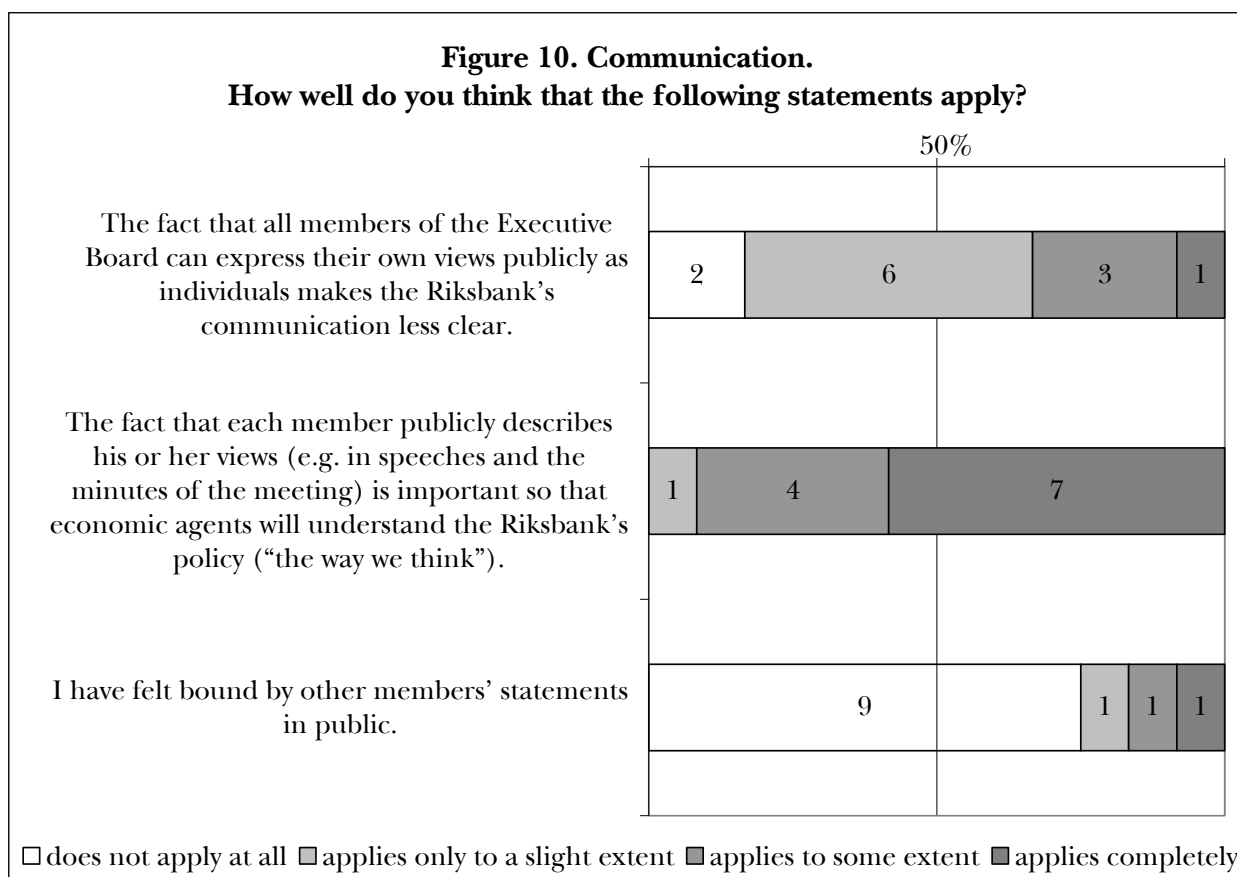
and

“That each member publicly describes his or her views (for example, in speeches and the minutes of the meeting) is important so that economic agents will understand the Riksbank’s policy (“the way we think”).

The members were also asked to react to the statement

“I have felt bound by statements made by other members’ in public.”

This latter statement is partly related to the first statement: To avoid the message being too fragmented, members may feel forced to keep quiet regarding their own view, or even to support, against their will, an opinion already expressed by someone else.



The balance tipped in favour of the second argument, see Figure 10. The majority of the members consider it important that each member explains his or her opinions so that the economic agents will understand the Riksbank's policy (average score 2.5). The statement that communication may be unclear if all of the members of the Executive Board comment publicly receives less support, although only a couple of members dismiss this entirely (average score 1.3). A much larger number dismiss the statement that they have felt bound by other member's statements in public (average score 0.5).

Greater emphasis on stabilising inflation than on stabilising the real economy

The Riksbank conducts what is called flexible inflation targeting, which means that it attempts to stabilise inflation around the target as well as to stabilise the real economy. The latter is usually described as trying to stabilise resource utilisation in the economy around a normal level. Given the Riksbank's present approach flexible inflation targeting involves the Riksbank setting a current repo rate and choosing a future repo rate path that give a forecast for inflation and resource utilisation that "looks good". To simplify somewhat, this means that if one looks ahead, any deviation from the inflation target or deviation from the normal level of resource utilisation appears reasonable and not too large.

Theoretically, flexible inflation targeting can be described as choosing a repo rate path that will minimise a loss function

$$\sum_{\tau=0}^{\infty} (\pi_{t+\tau,t} - \pi^*)^2 + \lambda \sum_{\tau=0}^{\infty} (y_{t+\tau,t} - \bar{y}_{t+\tau,t})^2,$$

where $\pi_{t+\tau,t}$ is the forecast in quarter t for inflation in quarter $t+\tau$, π^* is the inflation target, λ is the weight given to stabilising resource utilisation relative to stabilising inflation, and $(y_{t+\tau,t} - \bar{y}_{t+\tau,t})$ is a measure of resource utilisation (output gap). It is thus a question of choosing a repo rate path that minimises the square sum of the forecast for the inflation deviation $\sum_{\tau=0}^{\infty} (\pi_{t+\tau,t} - \pi^*)^2$, plus the importance λ times the square sum of the forecast for resource utilisation $\sum_{\tau=0}^{\infty} (y_{t+\tau,t} - \bar{y}_{t+\tau,t})^2$.

Some have argued that producing an interest rate path is very difficult for a committee, see e.g. Goodhart (2005). For example, different λ 's among members could lead them to prefer different paths for the future repo rate. It is considered particularly difficult for a committee that is individualistic, like the Riksbank's Executive Board, to produce a common interest rate path. The difficulties in agreeing on an interest rate path are sometimes cited as one reason why there are as yet relatively few central banks publishing their own interest rate forecasts. Evidently, the Riksbank has nevertheless found ways, at least so far, to make the monetary policy decision-making process result in a path for the repo rate that a majority of the members can support (Svensson 2009).

Flexible inflation targeting as conducted by the Riksbank and other central banks is often described theoretically as above. But less is known about how actual monetary policy decision-makers view the links between theory and practice. The question we have chosen to focus on in particular is to what extent the members are inclined to state how highly they value stabilising inflation in relation to stabilising the real economy – to state their λ .

We asked the members the following question (after a brief theoretical introduction describing our reasoning):

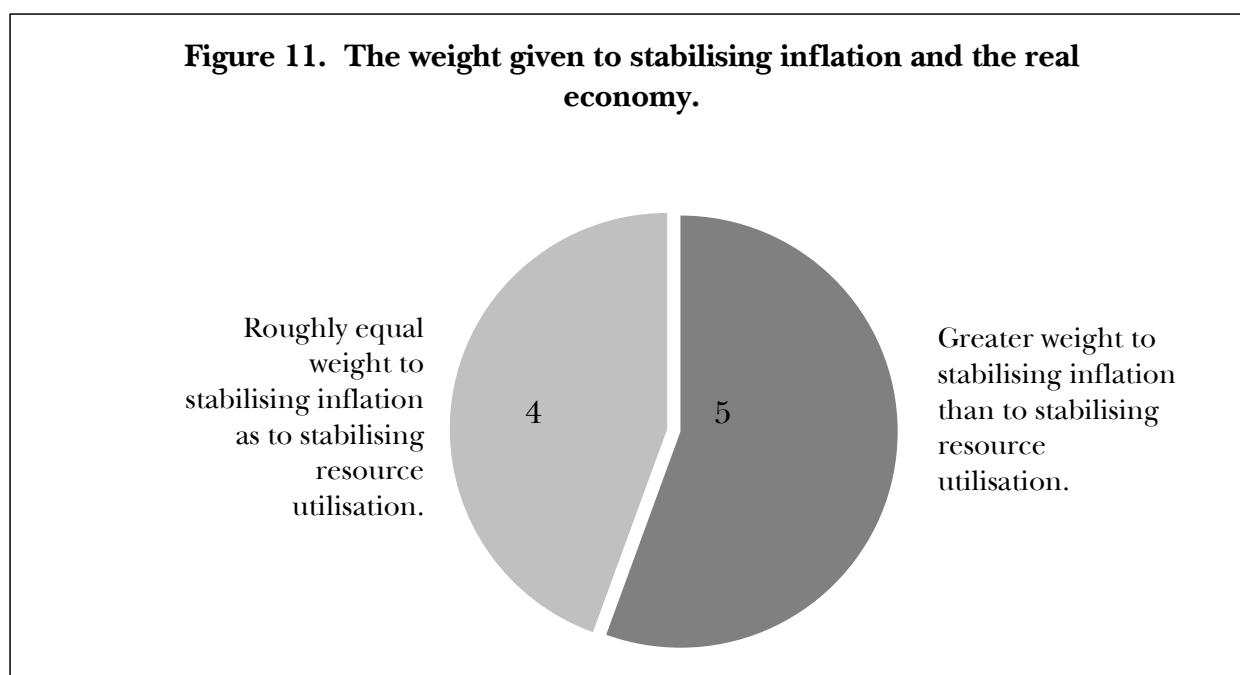
“Would you consider – using your own judgement, or, for instance, the Riksbank’s analysis resources – stating in terms of a figure how much importance you would normally place on stabilising resource utilisation in the economy in relation to stabilising inflation (that is, stating your λ)?”

Four of the members responded that they would indeed consider this. Those who responded that they would not consider stating a λ were asked to rate the following three explanations as to why they felt unable to do so: (i) The idea that one can use a specific figure to describe the relative weight of stabilising inflation to stabilising resource utilisation is overly simple, (ii) the relative weight depends on the current situation and therefore varies so much that it is meaningless to state a figure, and (iii) the measures of resource utilisation in the economy are so uncertain that it is meaningless to state a relative weight. All of the alternatives received considerable

support with average scores of 2.9, 2.8 and 2.4, and the median 3, “applies completely”, for all explanations.

We then asked the eight members who did not consider that they could provide a specific figure for λ whether they could consider making a *rough* estimate of how they value stabilising inflation in relation to stabilising resource utilisation, more precisely if they could say that they would normally give *greater* importance to stabilising inflation than resource utilisation ($\lambda < 1$), *less* importance to stabilising inflation than resource utilisation ($\lambda > 1$) or roughly *equal* weight to stabilising inflation and resource utilisation ($\lambda \approx 1$). Five members were willing to do so.

A total of nine members were thus prepared to at least make a rough estimate of much relative importance they would give to stabilising inflation in relation to stabilising resource utilisation. Five of these said that they would give more importance to stabilising inflation and four said that they would give roughly equal weight to stabilising inflation and stabilising resource utilisation. None of them was willing to give greater importance to stabilising resource utilisation.



On the whole the results indicate that many members are sceptical towards overly far-reaching parallels between how monetary policy is described in economic theory and how it is actually conducted – that there are limits as to how far you can go in linking theory and practice. At the same time, it is striking how many considered that they could at least make a rough estimate of how much importance they give to stabilising inflation relative to stabilising resource utilisation.

Some concluding remarks

The conventional picture of a monetary policy decision-making process puts considerable focus on the monetary policy meeting. A monetary policy committee is

gathered to one single meeting to discuss how the current policy rate should be set. Prior to this the members have deliberated separately. During the discussion the members put forward arguments which are mulled over. Gradually, the committee reaches a decision as to whether or not the current policy rate needs to be changed and if so, by how much. The interest rate decision is announced and only a relatively brief explanation given.

The monetary policy decision-making process at Sveriges Riksbank differs substantially from this picture. As we have described above, the process spans a number of weeks and involves a series of meetings, in which both the staff and the Executive Board participate and discuss together. The process concludes in a repo rate decision and detailed forecasts for a number of central variables, now also for the future development of the repo rate. The forecasts and the monetary policy stance are presented and explained in detail in the Monetary Policy Report (or Monetary Policy Update) that is published at the same time as the repo rate decision.

Several of the results in the survey appear to be linked in various ways to the monetary policy decision-making process at the Riksbank and to the way the repo rate decision is communicated. Much appears to have fallen into place before the monetary policy meeting, although this is of course where the final repo rate decision is made. The members have almost always decided how they will vote before the meeting and it is only occasionally that new information or new arguments are put forward at the actual meeting. It also appears to be the case that during the process the members form a good idea of how most of their colleagues intend to vote. This should come as no surprise, since the report published in connection with the repo rate decision is supposed to reflect the majority view.

The design of the decision-making process could also explain to some extent the relatively positive attitude to the attributed minutes. The members have had the opportunity during the series of preparatory meetings to test their arguments on their colleagues and the staff, to hone them and possibly to revise them. The arguments can therefore be put forward in a concise and well-reasoned manner at the monetary policy meeting. It is also possible that the apparent scepticism towards a system with external board members is partly due to the belief that it is important that all members take part in all stages of the monetary policy decision-making process.

It is probably not particularly unusual for central banks to work in a similar manner to the Riksbank – where forecasts and opinions on what should be done gradually emerge as the result of a series of meetings and are presented in relatively great detail in a written report published at the same time as the policy rate decision. The conventional picture of the monetary policy decision-making process, where the discussions at the monetary policy meeting start “almost from scratch”, and where the policy rate decision is justified relatively briefly, appears to better describe the situation in, for instance, central banks where the members are located in different parts of the country, have their own staff and only get together at the monetary policy meetings.

Another result that may be worth highlighting – and which would it would probably have been difficult to attain other than by means of a questionnaire – is that a majority of the members has at some time refrained from entering a reservation, despite the

fact that they considered a different decision than the one made by the majority would have been better. Although the Executive Board is individualistic, there thus appears to be some element of collegiality when the decisions are made. The main justification given is that the decision made was nevertheless reasonably close to the member's own assessment and that there is some "bargaining margin" in the policy rate decisions.

References

Berger, Helge, and Volker Nitsch (2008), "Too many cooks? Committees in monetary policy", Working Paper no. 2274, CESifo GmbH.

Berger, Helge, Volker Nitsch, and Tonny Lybek (2008), "Central bank boards around the world: Why does membership size differ?" *European Journal of Political Economy* 24 (4), 817–832.

Blinder, Alan S. (2004), *The Quiet Revolution: Central Banking Goes Modern*. Yale University Press.

Blinder, Alan S. (2007), "Monetary policy by committee: Why and how?" *European Journal of Political Economy* 23 (1), 106-123.

Blinder, Alan S., and John Morgan (2005), "Are two heads better than one? Monetary policy by committee", *Journal of Money, Credit, and Banking* 37(5), 789–812.

Blinder, Alan S., and John Morgan (2008a), "Do monetary policy committees need leaders? A report on an experiment", *American Economic Review* 98(2), 224–29.

Blinder, Alan S., and John Morgan (2008b), "Leadership in groups: A monetary policy experiment", *International Journal of Central Banking* 4(4), 117–150.

Blinder, Alan S., Michael Ehrmann, Marcel Fratzscher, Jakob De Haan, and David-Jan Jansen (2008), "Central bank communication and monetary policy: A survey of theory and evidence" *Journal of Economic Literature* 46(4), 910–945.

Dincer, N. Nergiz, and Barry Eichengreen (2007), "Central bank transparency: Where, why, and with what effects?" Working Paper no. 13003, National Bureau of Economic Research.

Dincer, Nergiz, och Barry Eichengreen (2009), "Central bank transparency: Causes, consequences and updates", Working paper no. 14791, National Bureau of Economic Research.

Eijffinger, Sylvester C. W., Lex Hoogduin, and Carin A B van der Crujisen (2008), "Optimal central bank transparency", Discussion Paper no. 6889, Centre for Economic Policy Research.

Eijffinger, Sylvester C.W., and Petra M. Geraats (2006), "How transparent are central banks?" *European Journal of Political Economy* 22 (1), 1-21.

- Erhart, Szilárd, and Jose-Luis Vasquez-Paz (2007), “Optimal monetary policy committee size: Theory and cross country evidence”, Working Paper no. 2007/6, The Central Bank of Hungary.
- General Council of the Riksbank (2000), “General Council proposes a smaller Executive Board”, Press release no. 19 October.
- General Council of the Riksbank (2007), “General Council proposes changes in Sveriges Riksbank Act”, Press release no. 10, 23 February.
- Gerlach-Kristen, Petra (2003), “Insiders and outsiders at the Bank of England”, *Central Banking* XIV, 96–102.
- Gerlach-Kristen, Petra (2008), “The role of the chairman in setting monetary policy: Individualistic vs. autocratically collegial MPCs”, *International Journal of Central Banking* 4(3), 119–143.
- Gerlach-Kristen, Petra (2009), “Outsiders at the Bank of England’s MPC”, *Journal of Money, Credit and Banking* 41(6), 1099–1115.
- Gersbach, Hans, and Volker Hahn (2008), “Information acquisition and transparency in committees”, Discussion Papers no. 6677, Centre for Economic Policy Research.
- Giavazzi, Francesco, and Frederic S. Mishkin (2006), “An Evaluation of Swedish Monetary Policy between 1995 and 2005”, RFR1, Sveriges Riksdag.
- Goodhart, Charles A.E. (2005), “The interest rate conditioning assumption”, Discussion Paper no. 547, Financial Markets Group, London School of Economics.
- Hallsten, Kerstin, and Sara Tägtström (2009), “The decision-making process – how the Executive Board of the Riksbank decides on the repo rate”, *Sveriges Riksbank Economic Review* no. 1, 69–86.
- Hammond, Gill (2009), “State of the art of inflation targeting”, Handbook no. 29, Bank of England, Centre for Central Banking Studies.
- Heikensten, Lars (1999), “Monetary policy and the new Executive Board,” speech at the Autumn Conference of the Centre for Business and Policy Studies.
- Heikensten, Lars (2003), “Bakom riksbankens tjocka väggar - hur inflationsmålpolitiken växte fram 1995 – 2003” (Behind the thick walls of the Riksbank – how inflation targeting developed 1995-2003), Chapter 7 of *På jakt efter ett nytt ankare. Från fastkurs till inflationsmål (Looking for a new anchor. From a fixed exchange rate to an inflation target)*, ed. Lars Jonung, SNS Förlag. (In Swedish).
- Hörngren, Lars (1994), “The Riksbank’s new interest rate management system”, *Sveriges Riksbank Economic Review* no. 2, 48–53.
- Lombardelli, Clare, James Proudman, and James Talbot (2005), “Committees versus individuals: An experimental analysis of monetary policy decision-making”, *International Journal of Central Banking* 1(1), 181–205.

Riksdag Committee on Finance (2000), “Ändring i lagen (1988:1385) om Sveriges riksbank” (Amendment to the Sveriges Riksbank Act), Report 2000/01:FiU14. (In Swedish.)

Riksdag Committee on Finance (2007), “Evaluation of monetary policy”, Report 2006/07:FiU27. (In Swedish.)

Rosenberg, Irma (2008), “The monetary policy decision-making process”, Speech at the Riksbank, Stockholm.

Sibert, Anne (2006), “Central banking by committee”, *International Finance* 9(2), 145–168.

Svensson, Lars E. O. (2009), “Transparency under flexible inflation targeting: Experiences and challenges”, *Sveriges Riksbank Economic Review* no.1, 5–44.