Monetary Policy at the Riksbank and the Phillips Curve

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I'm very grateful to Eric and Jeff and the organizers of this conference for the opportunity to speak at this great occasion. I will say a few words about monetary policy at the Riksbank and the role of the Phillips curve there. At the Riksbank we conduct flexible inflation targeting, which means that we try to stabilize inflation around the inflation target, which is 2 percent for the consumer price index (CPI) in our case. We also attach some weight to stabilizing the real economy—that is, stabilizing resource utilization measured, for instance, by the output gap. This approach is consistent with minimizing a conventional quadratic loss function that equals the inflation gap between inflation and the inflation target squared plus the weight lambda times the output gap squared. We do what can be called "forecast targeting": we choose a repo-rate path (the repo rate is the Riksbank's instrument rate) such that the forecast for inflation and the real economy looks good. "Looks good" means that inflation goes to the inflation target and resource utilization goes to a normal level at an appropriate pace, say within two to three years or so. We publish and explain a repo-rate path and our forecast for inflation and the real economy. We try to take the idea of managing expectations seriously. That is, we accept that the current repo rate matters very little or not at all. It is really expectations about the future repo rate and the expectations about inflation and the real economy that matter for the decisions made by the private sector.

Now to the Riksbank's decisionmaking process. We have a six-member Executive Board. Each member is supposed to have the same information about the policy situation and an equal influence on policy

decisions. We make six policy decisions per year, so on average we have one every other month. At three of these policy meetings we publish a longer *Monetary Policy Report*. At the intervening three meetings we publish a shorter *Monetary Policy Update*. Both the *Report* and the *Update* contain a forecast of inflation, the real economy, and the repo rate. During each decision cycle, there is a series of meetings and a lot of interaction between the staff and the Executive Board. These meetings and interactions result in a main forecast of the repo rate, inflation, and the real economy and possible alternatives to these forecasts. At the final policy meeting in the decision cycle, we discuss and vote on the decision and the *Report* or *Update*. The *Report* or *Update* is published the day after the policy meeting when a press conference is also held. Two weeks later the meeting minutes are published. The minutes are attributed, meaning that each comment or statement is preceded by the name of the speaker. The minutes also include the result of the voting, any dissenting views, and the explanation for such disagreement.

The forecasts and the policy simulations are generated using a set of models. The main model is a state-of-the-art dynamic stochastic general equilibrium (DSGE) model called Ramses. It has been in operational use since 2005, so we have several years of experience in using this model in the decisionmaking process. We also have a Bayesian vector autoregression (VAR) model, and we have a few other models mostly for short-term forecasting, including indicator models and a few single-equation models. The results from these models are combined through a kind of informal model averaging. Quite a bit of judgment is also applied. The end result is our main forecast and a few alternatives to the main forecast. Our forecasts are mean forecasts, not mode forecasts. In practice, we rely on the mean forecasts for policy, so we implicitly assume that certainty equivalence is an acceptable approximation, so the mean forecasts provide enough information for our decisions. We also publish uncertainty intervals, but these serve mostly to remind people about the uncertainty of the forecast and that the forecast, especially the repo-rate path, is simply a forecast and not a firm prediction. Figure 8.4 shows a standard picture in our *Report* or *Update*. The mean and the uncertainty intervals are shown.
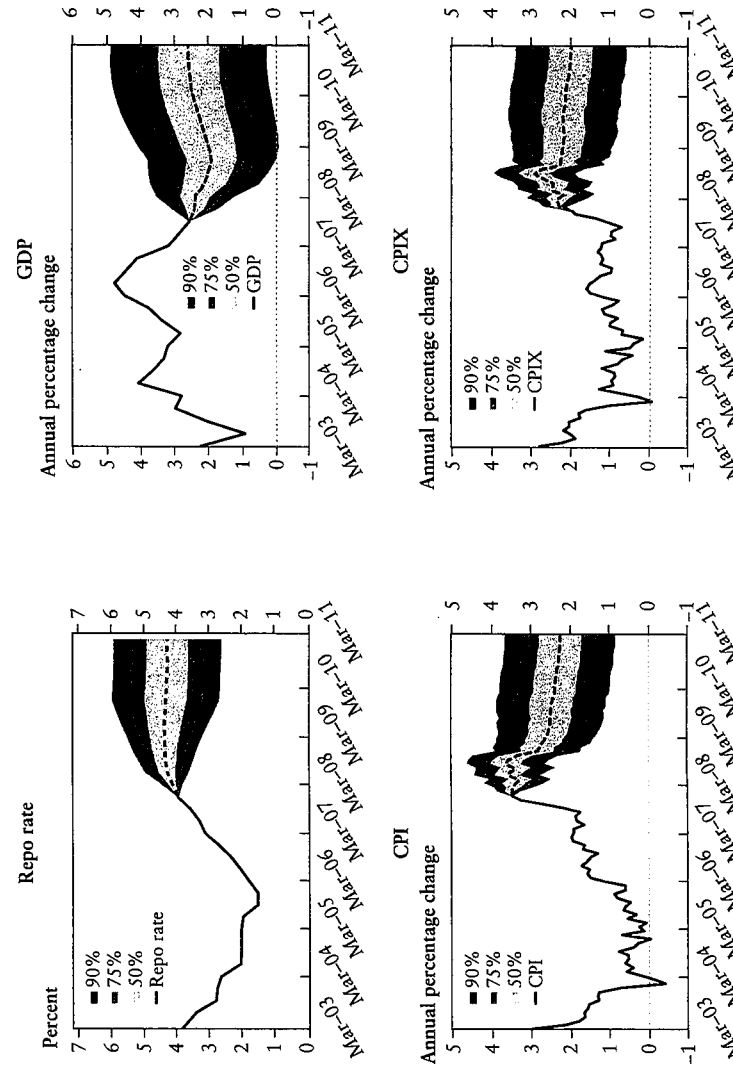

Figure 8.4
Mean Forecasts, Uncertainty Intervals
Source: Sveriges Riksbank.

Let me move on to discuss Ramses, our main model, and the role the Phillips curve plays in it. Ramses is a state-of-the-art open-economy DSGE model and is described in Adolfson, Laséen, Lindé, and Villani (2007). It is estimated with Bayesian methods. The model's structure is similar to the many other central bank DSGE models. There is an aggregate-supply bloc that contains state-of-the-art New Keynesian Phillips curves. There are different Phillips curves for domestic goods, imported consumer goods, imported investment goods, and exports. The aggregate-supply bloc provides the trade-off between the real economy and inflation in the model. There is an aggregate-demand bloc with state-of-the-art Euler conditions for consumption and investment. This bloc specifies how monetary policy affects the real economy. So far most simulations have been carried out with an estimated empirical reaction function, but we are working on implementing optimal policy in the framework, which means having a specific intertemporal loss function and solving the model and producing optimal projections that minimize the loss function (Adolfson, Laséen, Lindé, and Svensson 2008).

What are the implications for the policy discussion given the decision a year and a half ago to publish a repo-rate path? The Riksbank started to publish a repo-rate path in February 2007. This is something that, as an academic, I argued should be done for a long time. My colleagues on the Board actually decided to do this before my appointment to the Board in May 2007. As a consequence of publishing the repo-rate path, the discussion among the Board members is much more about the future repo-rate path than about the current repo rate—the decision about the current repo rate is just a consequence of the path that you have agreed on previously. I think publishing a repo-rate path is a healthy and good policy development. It means that we get a more medium- and long-term perspective on policy. Because the models, in particular Ramses, serve to some extent as a communication framework, we get much more of a general-equilibrium perspective in the policy discussion. We also get more systematic treatment of alternative assumptions about the development of exogenous variables, alternative assumptions about the transmission mechanism of monetary policy, and so on.

Figure 8.5 illustrates the implicit model averaging that occurs. Here the dashed line curve is from Ramses, the light gray curve is from our
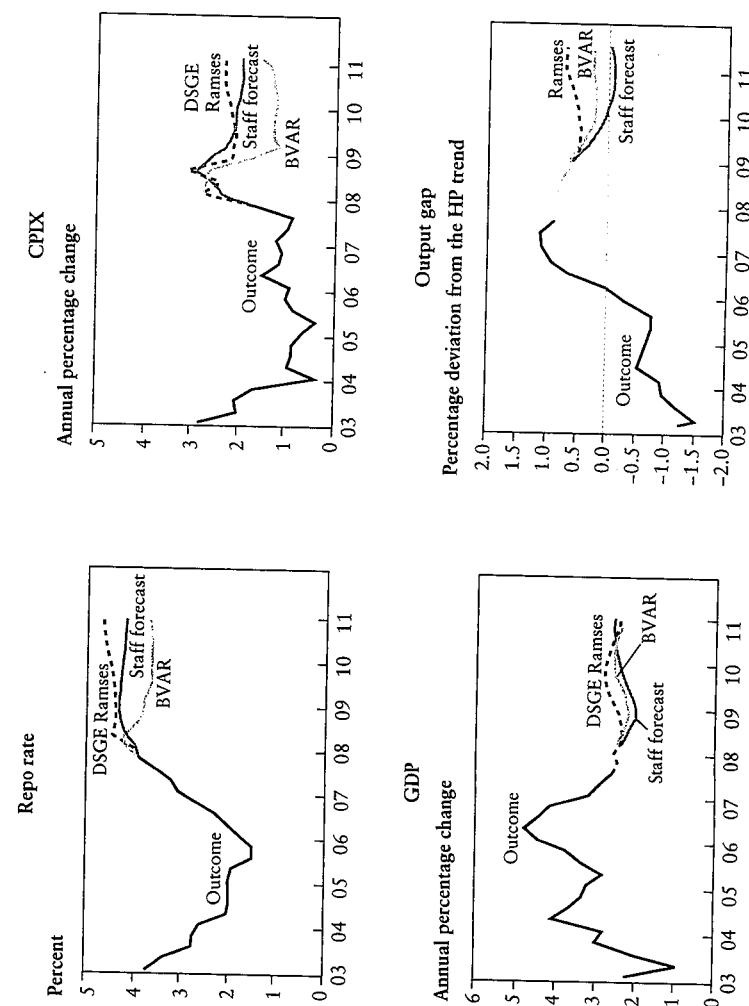

Figure 8.5
Model and Staff Forecasts
Source: Sveriges Riksbank.

Bayesian VAR, and the dark gray curve is the staff forecast, the result of implicit model averaging and quite a bit of judgment by the staff.

Figure 8.6 shows the result of different assumptions about exogenous variables. The dark gray curve is the main scenario, the black dotted curve is a simulation with higher international inflation, and the light gray dotted curve is a simulation with greater financial market turmoil.

The Riksbank is the third central bank to publish its own instrument-rate path. Previously, the Reserve Bank of New Zealand (RBNZ) since 1997 and Norges Bank since 2005 have published their own instrument-rate path. At the RBNZ, there is a single decisionmaker, the governor. At Norges Bank, the forecast and repo-rate path presented to the Board (which has five external members and two members from the Bank, the governor and the deputy governor) is actually the forecast of the Bank and the governor. The Board may or may not accept the Bank's forecast and instrument-rate path. Therefore, you can say that Norges Bank also has a single decisionmaker behind the instrument-rate path. This means that the Riksbank is the first central bank to publish an instrument-rate path with a genuine individualistic committee (in Alan Blinder's 2008 terminology) and not a single decisionmaker. This is of some interest, since some people have argued that it is more or less impossible for a genuine committee with several board members to agree on an instrument-rate path (Goodhart 2005). The Riksbank has now demonstrated that it is possible.

Some of you may remember that in previous academic work (Svensson 2007), I have presented an idea of how to aggregate preferences over instrument-rate paths. Figure 8.7 illustrates this.

Suppose that you have three board members. Each one has his or her own preferred instrument-rate path. How do you aggregate these to one path? My suggestion was to just take the median path. In the top panel of figure 8.7, you see the three members' preferred instrument-rate paths as three dotted curves. For each horizon, you then take the median, the solid black curve in the bottom panel of figure 8.7. Then you would start arguing and negotiating about that median. Of course, there is a problem here because that median comes from different paths, and it may not be completely consistent and is not exactly optimal.
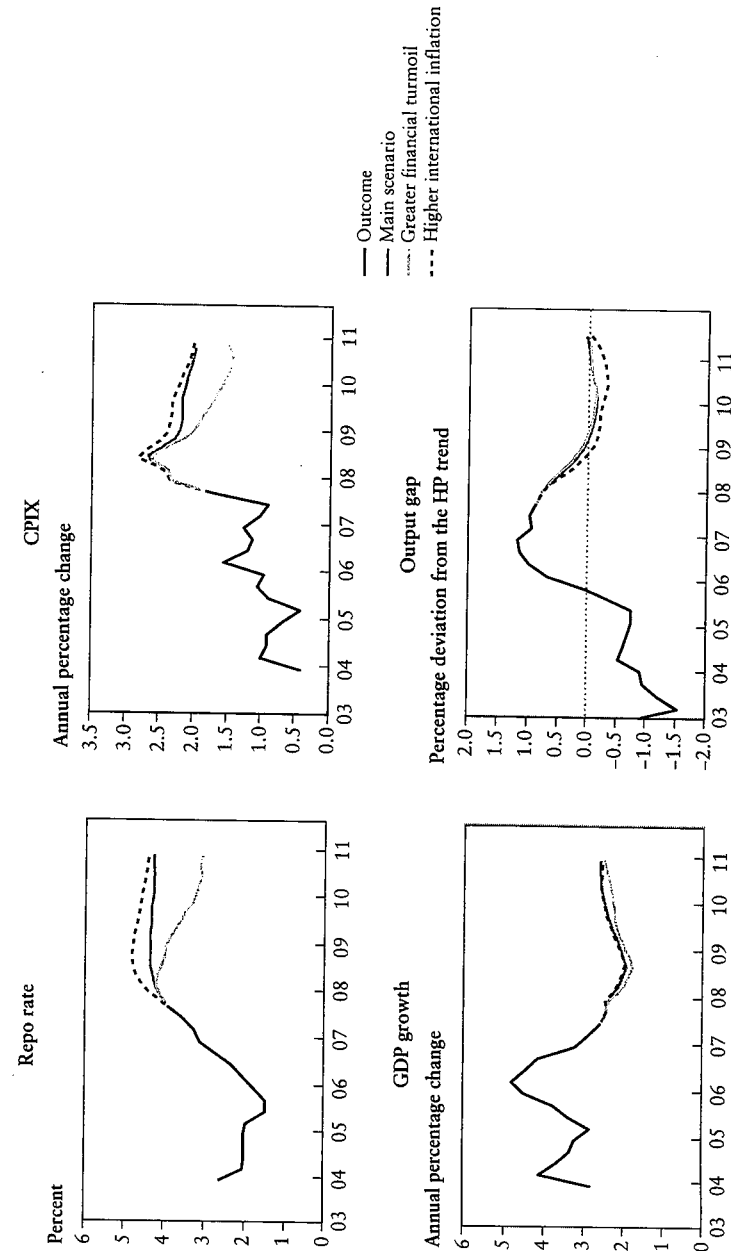

Figure 8.6
Alternative Scenarios
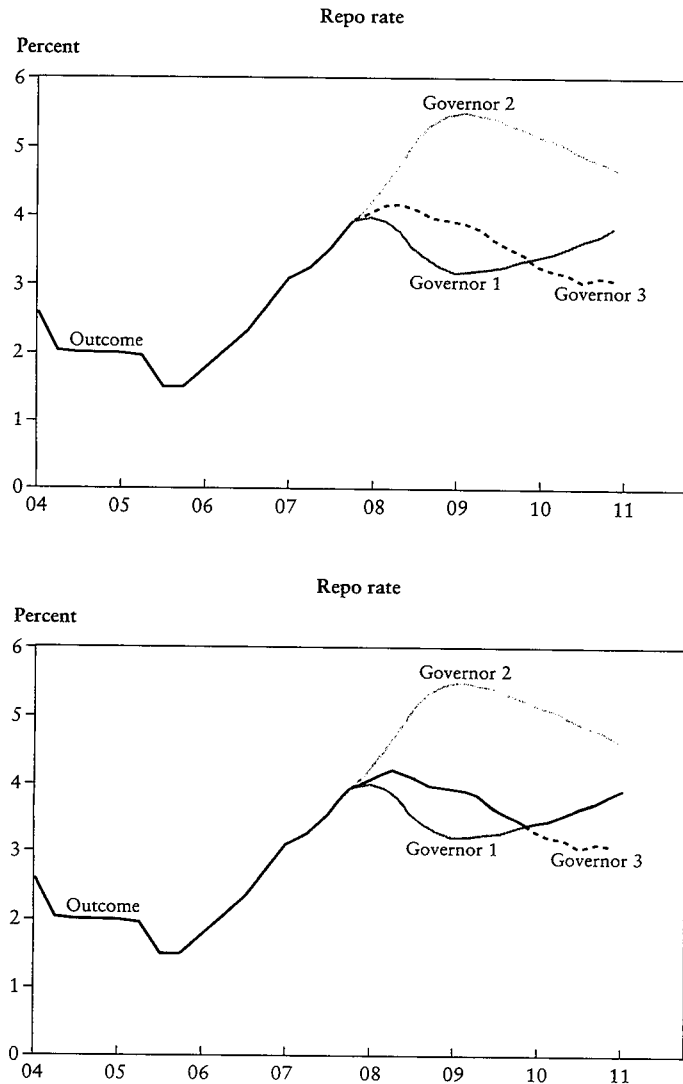*Source:* Sveriges Riksbank.

Repo rate

Percent

Repo rate

Percent

Figure 8.7
Deciding on a Repo-rate Path: Median Path?
Source: Author's calculations.

In any case, this is not the way it has worked in practice at the Riksbank so far—it actually has been much easier. During the many meetings and interactions with the staff before the final meeting, we arrive at a main scenario of a repo-rate path and a forecast of inflation and the real economy that the staff deems the Board's majority is likely to prefer. In the process, we may also consider a number of alternatives. Figure 8.8 shows possible alternative repo-rate paths and corresponding forecasts for inflation, GPD growth, and the output gap. The dark gray curves show the main scenario, the black dotted path shows a higher repo-rate path, and the light gray curve shows a lower repo-rate path. The main scenario was chosen by the majority of the Board.

So the practice of choosing a repo-rate path has so far been much simpler than as an academic I thought it would be. In a genuinely individualistic committee, we can easily decide on a repo-rate path with six members. I think that one can do the same thing with a larger committee, say 9, 12, maybe 19. Who knows? I do not think that the number of committee members is crucial. However, the decisionmaking process may be easier if all of the members are full-time in-house members, as at the Riksbank. It remains to be seen. After the Riksbank, Sedlabanki Islands (the central bank of Iceland) and the Czech National Bank have started to publish instrument-rate paths. I look forward to seeing which central bank will be the next to do so.

Figure 8.9 shows our decisions so far, from February 2007 through April 2008. In February 2007, before I joined the Board, the interest rate path was pretty low and the Riksbank had a fairly low inflation forecast. In June 2007, my first policy meeting, the interest-rate path was raised to a higher level, since during the spring inflation pressure had increased quite a bit. Since June 2007 through April 2008, the path has been kept approximately unchanged. During this period, inflation pressure was increasing but the real-economy outlook was increasingly weak, so we thought that an unchanged repo-rate path remained the best compromise between stabilizing inflation and stabilizing the real economy. (The different histories for GDP growth and the output gap are due to data revisions.) At the time of writing, the next policy meeting is in early July 2008, and then we will reconsider the situation, the outlook, and our decision.
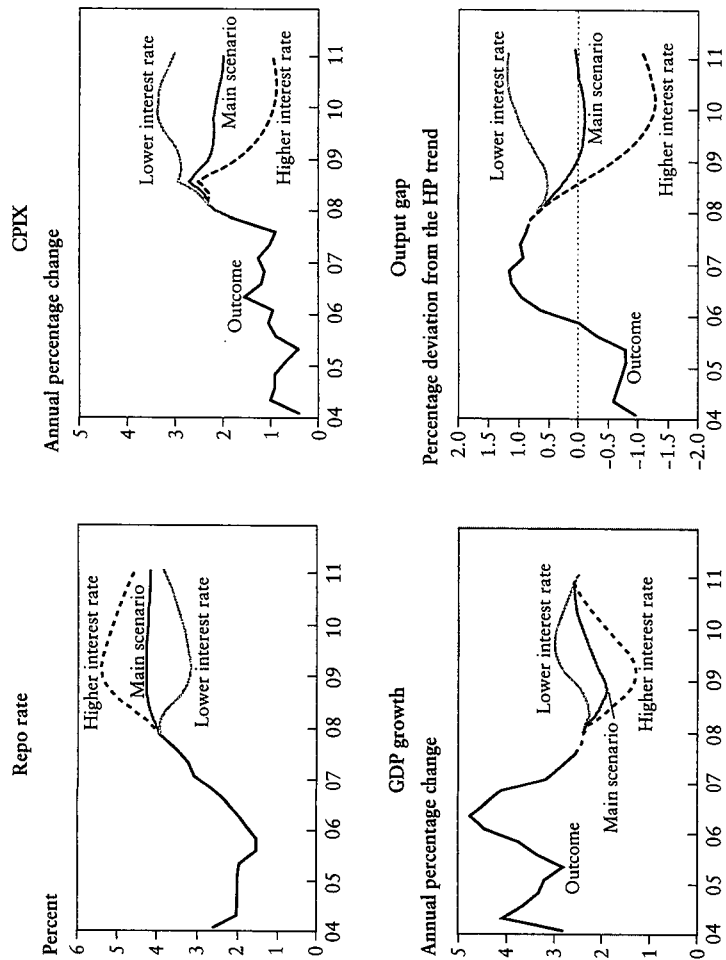
CPIX

Annual percentage change

Repo rate

Percent

Output gap

Percentage deviation from the HP trend

GDP growth

Annual percentage change

Figure 8.8
Deciding on a Repo-rate Path: Just Vote among a Few Alternatives
Source: Sveriges Riksbank.

CPIX

Annual percentage change

Repo rate

Percent

Output gap

Percentage deviation from the HP trend
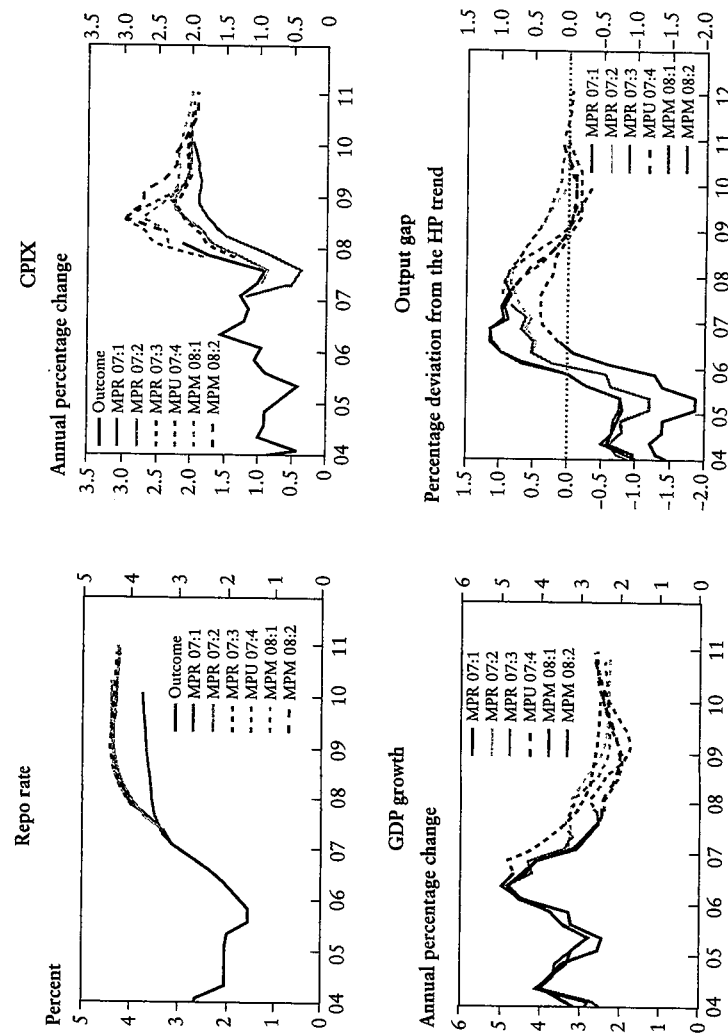
GDP growth

Annual percentage change

Figure 8.9
Decisions February 2007–April 2008
Source: Sveriges Riksbank.

■ *The views and conclusions are solely my responsibility and do not necessarily agree with those of other members of the Riksbank's Executive Board or staff.*

References

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