## Response to Referee I on "The Accuracy of a Forecast Targeting Central Bank"

Ragnar Nymoen and Nina S. Falch

Thank you for the concise and constructive report on our paper.

It is not difficult to agree with your overall view, namely that the forecasting comparisons between the two set of published forecasts (one from the MPRs and one from an outside econometric model) represent the main value added in the paper. It is in fact very encouraging for us that a highly competent reader finds that the differences in accuracy are sometimes large, and that this finding also invites more interpretation as well as assessment of the statistical significance.

Regarding statistical significance of differences in forecast accuracy, we will follow the advise to carefully consider the possibility of a formal test, the rather smallish number of real time forecasts notwithstanding. A modified version of the Diebold-Mariano test seems to be a good starting point.

It is interesting that you suggest that more information on the key differences relevant for the forecasts, between the Norges Bank model and the outside econometric model. We think that this is a good idea, and that it can be done. One practical challenge for exposition and balance is how to do this without appearing as speculative. No full account of the Norges Bank process for generating their forecasts exists. Which model was used (most) in any MPR inflation forecast, and what were the contributions from interventions (intercept correction, or add-factors) to the different forecasts horizon in a given MPR? These are questions that cannot be answered fully with reference to objective sources, even for a transparent central bank like Norges Bank. Hence, in one important respect we are forced to assess the net-contribution of the whole forecasting process in Norges Bank (model *plus* judgments). That said, the main features of the two most important Norges Bank models used in the period covered by our paper have been documented by Norges Bank, they are both DSGE models, and we agree that some more mapping from model properties and content to forecast performance can be made. Hopefully, this will balance the discussion of the two sets of model based forecasts in the paper.

We can see that the formalism in section 3 may not be needed as a motivation for our project. The reason why we put it in was to counter an argument that we

have heard (surprisingly often), namely that the assessment of the accuracy of inflation targeting central banks forecasts is irrelevant. It is correct as you point out that if there is a within quarter effect from the policy instrument to the target (the inflation target), the central bank does not need to forecast if it is prepared to follow a completely discretionary policy. But the exactly full discretion is counter to modern monetary economics and to central bank practice (apart from when "in" financial crisis). Without full discretion, and with some degree of gradualism in interest rate setting, we show that forecast errors "roll back" to interest rate setting. This holds in particular for the case of no immediate effect from the policy instrument on inflation. However, as just noted, we recognize that this is not central to the main contribution of the paper, and that the example model may be too simple and specific. Moreover, the basic argument can be made without formalism, in a revised Introduction for example, rather than in a separate section.