Forecasts for the Norwegian economy 2010q1-2013q4

Forecasts are presented for the first quarter of 2010 until the end of 2013 of important macroeconomic variables, using The Norwegian Aggregate Model (NAM). Information about the model and a disclaimer are in the box at the back of the document. The forecasts are presented in Figures 1-4 below, each consisting of four panels of graphs. Starting from upper left, going to upper right and then to lower left, and ending at lower right, the four panels of each Figure are referred to as a)-d).

The four panels of Figure 1 show NAM forecasts of four headline variables: CPI inflation, the rate of unemployment, the average nominal interest rate on loans in Norwegian banks, and real credit growth. The distance between the dashed (red) lines represents the approximate 70% prediction intervals. Hence, future realizations within the intervals are regarded by the model as more likely events than realizations outside the intervals.

Figure 1: NAM forecasts for the period 2010q1-2013q4 with 68% prediction intervals (represented by the dotted lines). Data for the period 2007q1-2009q4 are included for reference.

Panel a) shows a decrease in the annual rate of CPI inflation during 2011, before stabilizing around 2%. The rate of unemployment (panel b) is forecasted to start falling
during 2010 and stabilize just below 2.5%. Panel c) shows the domestic interest rate, represented by the average bank loan rate. Following recent increases in the policy rate, the bank lending rate will increase during the period, ending around 7% at the end of 2013. The final panel in Figure 1 shows real credit growth, which is projected by the model to increase rapidly towards a representative growth rate of 12% at the beginning of 2012.

Figure 2 gives an overview over the development in prices by showing inflation adjusted for energy and taxes (CPI-AET), so-called core inflation, in panel a), CPI inflation and wage cost growth in panels b) and c), and import price growth (panel d). Core inflation is forecasted to fall gradually towards 1% by late 2011, before stabilizing around 1.5% at the end of 2013. The annual rate of wage inflation is starting increasing at the end of 2010. Import price fall is halted, due to stabilizing prices internationally.

Figure 2. NAM forecasts for the period 2010q1-2013q4 with 68% prediction intervals (represented by the dotted lines).
Four important real variables are shown in Figure 3. Panel a) shows real GDP growth for Mainland-Norway. The forecasted GDP growth is shown in graph a). After the negative growth in 2009 as a manifestation of the ongoing world recession, growth is expected to be back close to 4% already at the end of 2010 and will increase towards the end of the forecast period. This might prove to be optimistic and will depend upon whether international contraction or domestic expansive policy will dominate. Panels b) and c) of Figure 3 give an indication. They show two important explanatory variables for mainland GDP: the real exchange rate and the domestic real interest rate. The real exchange rate (graph b) is depreciating over period as a whole, and is therefore a help for GDP growth to recover. The low real interest rate in 2010 in panel c) is also an important impetus, despite the increase during the rest of the period. Growth is a main factor behind the increase and then fall in unemployment shown in Figure 1 above, and graph d) in figure 3 shows how the model projects the Labour Force Survey rate of unemployment. GDP growth is also related to credit growth, which is captured by the model in two important ways. First, the easing of credit supply affects the GDP growth rate positively. Second, higher GDP growth increases the demand for loans.

Figure 4 takes a closer look at the interest rate and (the market for) foreign exchange. Panel a) shows the rate of currency depreciation (the four quarter rate of change in the trade weighted nominal exchange rate). The international value of the krone is projected...
to decrease in 2010, before remaining roughly constant for the rest of the forecast period. We note that this is in line with the falling differential against foreign interest rates (panel c) in spite of the increase in the money market interest rate in panel b). The relatively low interest rates, however, will help credit growth to recover very quickly once it starts increasing during 2010.

Figure 4. NAM forecasts for the period 2010q1-2013q4 with 68% prediction intervals (represented by the dotted lines).
References


About NAM and disclaimer

Model developers are Gunnar Bårdsen ([http://www.svt.ntnu.no/iso/gunnar.bardsen](http://www.svt.ntnu.no/iso/gunnar.bardsen)) and Ragnar Nymoen ([http://folk.uio.no/rnymoen/](http://folk.uio.no/rnymoen/)).

Norwegian Aggregate Model (NAM) is an econometric model project which extends from the early econometric assessment of wage- and price-inflation in Nymoen (1991), further developed in Bårdsen, Fisher, and Nymoen (1998), Bårdsen and Fisher (1999), and the monetary transmission model of Bårdsen and Klovland (2000).

Earlier versions of the model are documented in Bårdsen and Nymoen (2001), Bårdsen, Jansen, and Nymoen (2003) and Bårdsen, Eitrheim, Jansen, and Nymoen (2005). NAM is used for both research purposes and for teaching. The macroeconomic data is from the model databases of Statistics Norway (KVARTS model) and Norges Bank (FPAS database).

Earlier forecasts can be found at


[http://folk.uio.no/rnymoen/NAM/Forecasts.html](http://folk.uio.no/rnymoen/NAM/Forecasts.html)

NAM relies on data provided by the macroeconometric research unit in Statistics Norway, and on data from the macroeconomic database of The Norwegian Central Bank.

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