Box E
Forecast Confidence Intervals

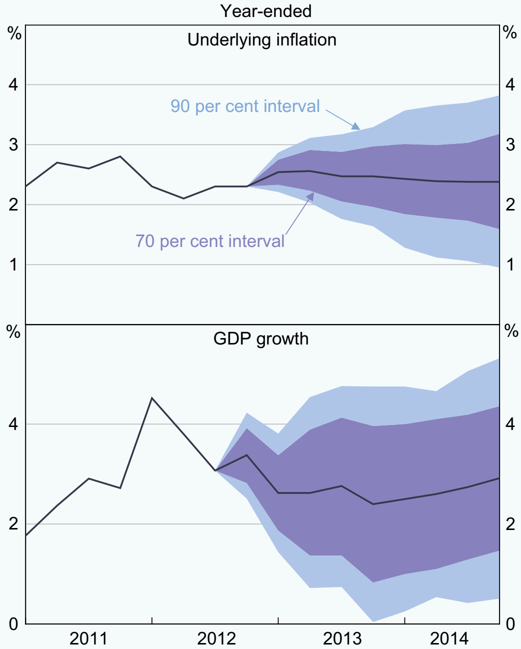
Table 6.1 presents the Bank's expectation of the central or most likely path for key macroeconomic variables. However, many other outcomes are also possible. Some of the factors that could result in alternative outcomes are more obvious – see the discussion under the heading 'Risks' – but others are less tangible.

The range of likely outcomes can be estimated by examining past forecast errors. In a recent Research Discussion Paper, Tulip and Wallace (2012) calculate the Bank's forecast errors between 1993 and 2011.[1] The distribution of these errors can be added to the forecasts to construct confidence intervals. Graph E1 shows 70 per cent and 90 per cent confidence intervals around the forecasts for underlying inflation and GDP growth on a year-ended basis.

The top panel shows that a 70 per cent confidence interval for the forecast of underlying inflation over the year to the December quarter 2014 extends from 1.6 per cent to 3.2 per cent. That is, if the Bank makes similar-sized forecast errors to those made in the past, then there is a 70 per cent probability that underlying inflation will fall between 1.6 per cent and 3.2 per cent. Similarly, the 70 per cent confidence interval for GDP growth over the year to the December quarter 2014 extends from 1.5 per cent to 4.4 per cent.

These estimates make several assumptions. They assume that the accuracy of the current forecasts will be similar to that of the past. They assume that the confidence intervals are symmetric and centred on the forecasts. However, they do not make the common assumption that the errors are normally distributed.

Graph E1
Confidence Intervals about the Forecast



Sources: ABS; RBA

The width of the confidence intervals indicates there is always substantial uncertainty about the economic outlook. This is not an unusual result: high levels of uncertainty have also been found in other countries, for other macroeconomic variables and for both private and public sector forecasts. One implication of this uncertainty is that there is limited value in discussing precise point estimates of the forecasts. Accordingly, the forecasts in Table 6.1 are rounded in the short term and presented as ranges further out. Another implication of the results is that there is substantially more confidence about the near-term outlook for underlying inflation than there is about the outlook for GDP growth.

1 See Tulip P and S Wallace (2012), 'Estimates of Uncertainty around the RBA's Forecasts', RBA Research Discussion Paper No 2012-07.