
The paper analyses the effectiveness of three monetary policy options available when the short-term nominal rate is at, or close, to the zero lower bound by examining the recent experience of the United States and Japan. These policies are:

- Central bank communications;
- Quantitative easing; and,
- Changes to the composition of a central bank's balance sheet.

The authors compare the results from event studies and a macro-finance model in relation to the first and third policies for the US, and focus on Japan's experience for quantitative easing.

**US Experience**

*Communications:* FOMC statements regarding the balance of risks and policy bias over the period 1991 to 2004 are categorised as either expected or unexpected by market participants. The authors' find that the average variance for unexpected statements is 196 basis points, and 42 basis points for expected statements. Thus, communications, and not just policy actions, have a major impact on policy expectations. More importantly though dovish statements lowered and hawkish statements raised policy expectations by an average of 12 basis points for all unexpected statements.

The authors' also analysed the effect of statements that only concerned likely future policy and find that these statements had even greater impact on expectations (16 basis points). The macro-finance model confirmed the results of the event study, but the variance of the effects differed.


The authors' conclude that treasury yields did react to these events, and that supply changes matter. Yet because the latter two events couldn't readily be separated from each other isolating the impact of each event was problematic.

**Japanese Experience**

The authors' use a similar approach to the US study, yet their findings are less robust due to less available data and the different operating procedure of the BoJ. In contrast to the US experience, no significant relationship was found between statements and year-ahead policy expectations.
Statements that indicated larger than expected purchases of bonds led to a decline in five-year yields, but only by five basis points. Regarding quantitative easing, the authors' note that the announcement of quantitative easing led to 3 to 6 percent gains on the Nikkei 500, and conclude that this policy gave impetus to the stock market.

Estimates from the macro-finance model provided stronger evidence of the effectiveness of quantitative easing. By comparing the predicted term structure, and the actual term structure before and after the introduction of the zero interest rate policy and quantitative easing, the authors' find that long-term yields declined, and there was a greater deviation of the predicted and actual yield curves, suggesting these policies were effective.

**Conclusions**
The three main conclusions of the paper are: a) non-standard policies may be effective; b) effective communication policies are viable as long as the central bank is credible; and c) an inflation buffer must be maintained to avoid the risk of deflation.

**Criticisms**
*Friedman:* The analysis of changes in composition is actually a study of statements about the composition. And, it is not necessarily the case that the effects would be different away from the lower bound.

*Svensson:* The paper doesn't focus on policies that may affect expectations of future prices; and, the effects of the policies analysed are rather small.

**Importance**
The paper is significant because Ben Bernanke is the current chairman of the FOMC. So his views are an insight into how the FOMC will act when deflationary risks are present, and that it will pre-emptively maintain a sufficient inflation buffer to avoid these risks. Also, it adds to the empirical literature on non-standard policy alternatives.