A summary of the article in RBI's February 2021 bulletin: Assessing the Markets' Expectations of Monetary Policy in India from Overnight Indexed Rates

The RBI has published an article in its Monthly Bulletin for February 2021 titled "Assessing the Markets' Expectations of Monetary Policy in India from Overnight Indexed Swap Rates", co-authored by Rituraj of the Financial Markets Regulation department and Arun Vishnu Kumar of the Department of Economic and Policy Research. The views expressed in the article reflect those of the authors and do not represent the views of the RBI. The core thesis of the article is observing the behavior of the Overnight Indexed Swap (OIS) rates to identify market expectations of the future course of monetary policy. The article empirically tests whether onshore OIS trades in India of different tenors (ranging from 1 month to 10 years) are efficient measures of market's expectation of short-term interest rates. The authors compute ex post "excess returns" as the difference between the OIS fixed rate and the floating overnight reference rate (MIBOR) and examine statistical properties of the returns. The authors find that the OIS rates of tenors of up to one year specifically, tenors of 1, 9 and 12 months, on average, approximate market's expectation of future short term interest rates.

Economic agents like households, firms and the government often base their current economic decisions on expectations about the near term trajectories of key macroeconomic variables like interest rates. Especially in the case of interest rates, the decision to borrow might be postponed or advanced if these agents expect the rates to decline or rise in the near future. Among these economic agents, one special category of agents comprises the participants in the financial markets who are forward looking in their decision making. These participants include banks, non-bank financial intermediaries which include pension/mutual funds, insurance companies, and primary dealers. These market participants base their expectations of future interest rates on the information set they possess as well as on their forecasts of variables that normally condition the path of the monetary policy rate (Repo rate).

There are several ways to empirically assess the market's expectation of future short term interest rates. These measures are categorized under three broad categories which are survey-based, financial market based and model based. Among these three measures, the most commonly used are the survey based and the financial market based measures. Survey-based method involves seeking answers to questions on policy rate expectations through various economic and financial surveys, while the market based method uses the daily transactions data of an instrument to gauge the expectations of the market.

Each method has its own advantages and disadvantages, for instance the survey-based method makes it possible to calculate the frequency distribution of respondents' expectation to arrive at the percentage of respondents who expect a cut or a hike or no change in the policy rate, but this is not possible in the market based approach. The market based method, however, has its own advantages. It is believed to capture the true expectations in the market. The price of the instrument (under study) is expected to move along with market expectation because the market players "risk" their money in the instrument (that is, by having their "money on the line"). On the other hand, given the subjective nature of survey-based method, it is likely at times that the respondents do not respond according to their actual expectation.

In India, the Reserve Bank has been conducting the Survey of Professional Forecasters (SPF) since September 2007. The responses received from a panel of analysts are presented in terms of median values of forecasts along with quarterly paths for key variables. The policy Repo rate is one of the key macroeconomic indicators for which quarterly forecasts are gathered through the survey. As mentioned above, the financial market-based measures assess interest rate expectations from financial market transactions data. The use of the overnight indexed swap (OIS) rate as a measure of monetary policy expectation is gaining popularity in the literature, particularly for the advanced economies.

An OIS is an interest rate derivative contract in which two entities agree to swap/exchange a fixed interest rate payment (the OIS rate) vis-à-vis a floating interest rate payment computed over a notional principal amount during the tenor of the contract. The floating rate is usually the overnight (unsecured) interbank rate (in India it is predominantly Mumbai Inter Bank Offer Rate, MIBOR). The floating leg interest payment is constructed by calculating the accrued interest payments from a strategy of investing the notional principal in an overnight reference rate and repeating this on an overnight basis for the duration of the contract, investing principal plus interest each time.

Excess returns are calculated as the unconditional ex post realized (annualised) difference of the return from the fixed interest rate of the contract over the daily (annualized) ex-post realized return from the floating leg of the same contract. Further, from the perspective of an agent who swaps fixed interest payments for the floating rate over the notional principal and his expectations of a zero-cost payoff at time of initiation of the trade, the fixed leg of the OIS contract must equal the ex-ante expected value of the floating leg. Thus, if the ex post realized excess return has a mean close to zero at the end of the contract, the forecasting error under the expectations hypothesis would also be close to zero at the initiation of the contract and the OIS contract can be said to provide an accurate measure of expected future short term interest rates.

The authors find that the excess returns of the OIS trades of tenors of up to one year were low ranging between 2 basis points (bps) and 20 bps indicating that these OIS rates were, on average, a fair indication of the direction of future course of monetary policy.

The authors also mention that the positive excess returns for these tenors could be on account of call rates remaining slightly below the policy Repo rate which in turn could be on account of liquidity conditions. The authors state that a possible reason for the 9-month and 12-month OIS rates emerging as the more accurate measure of future short-term interest rates could be that the market is able to predict the direction of monetary policy but not the exact timing. For instance, a market expectation of a rate hike of 25 bps in a 2-month time horizon may actually materialize only after 6 months. Such a scenario may lead to ex post excess returns for 3-month and 6-month OIS transactions being non-zero, while that for the longer tenor OIS, viz. 9-month and 12-month close to zero as they may not be affected to that extent.

Thus, the article finds that OIS rates are a better predictor of the direction of monetary policy rather than the actual timing of policy action. As a counterfactual, it would be expected that if a monetary policy action surprises the market, the OIS rates would immediately adjust. The authors also find that unanticipated changes in monetary policy during 2008 and 2013 in the wake of the global financial crisis and the ‘taper tantrum’ significantly impacted ‘excess returns’. The authors conclude that OIS rates in India are found to be good predictors of the direction of monetary policy, if not the exact timing of policy changes.

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