Indian Stock Market and Monetary Policy, Its Impact on Stock Returns

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ABSTRACT *Monetary policy is the macroeconomic policy laid down by the central bank. It involves management of money supply and interest rate and is the demand side economic policy used by the government of a country to achieve macroeconomic objectives like inflation, consumption, growth and liquidity. The monetary policy instruments are Cash Reserve Ratio, Statutory Liquidity Ratio, Open Market Operations, Liquidity Adjustment Facility, and Marginal Standing Facility. The main objective is to study the interrelationship between change in interest rate, inflation and stock returns. The study uses the time series data obtained from the main source i.e. official website of Indian Economy provided by Reserve Bank of India. The results shows that changes in cash reserve ratio, LAF, SLR, reverse repo rate, repo rate have some information content for the stock market that may lead to changes in the stock prices and to aggregate stock market returns.*

Introduction

Indian stock market has witnessed spectacular change in the recent decades. The market has undergone huge reform in the past few years. The economic instability in the global and national context has made its influence on the market movement. The linkage of stock market with macroeconomic variables has always been an area of interest among investors and policy makers. The Indian stock market is prone to the macro economic uncertainty in the country.

Monetary policy is the macroeconomic policy laid down by the central bank. It involves management of money supply and interest rate and is the demand side economic policy used by the government of a country to achieve macroeconomic objectives like inflation, consumption, growth and liquidity. In India, monetary policy of the Reserve Bank of India is aimed at managing the quantity of money in order to meet the requirements of different sectors of the economy and to increase the pace of economic growth. The RBI implements the monetary policy through open market operations, bank rate policy, reserve system, credit control policy, and moral persuasion and through many other instruments. Using any of these instruments will lead to changes in the interest rate, or the money supply in the economy. Monetary policy can be expansionary and contractionary in nature. Increasing money supply and reducing interest rates indicate an expansionary policy. The reverse of this is a contractionary monetary policy.

For instance, liquidity is important for an economy to spur growth. To maintain liquidity, the RBI is dependent on the monetary policy. By purchasing bonds through open market operations, the RBI introduces money in the system and reduces the interest rate.

Instruments of monetary policy

There are several direct and indirect instruments that are used in the implementation of monetary policy.

Cash Reserve Ratio (CRR): The share of net demand and time liabilities (deposits) that banks must maintain as cash balance with the Reserve Bank.

Statutory Liquidity Ratio (SLR): The share of net demand and time liabilities (deposits) that banks must maintain in safe and liquid assets, such as, government securities, cash and gold. Changes in SLR often influence the availability of resources in the banking system for lending to the private sector.

Refinance facilities: Sector-specific refinance facilities aim at achieving sector specific objectives through provision of liquidity at a cost linked to the policy repo rate. The Reserve Bank has, however, been progressively de-emphasising sector specific policies as they interfere with the transmission mechanism.

Liquidity Adjustment Facility (LAF): Consists of overnight and term repo/reverse repo auctions. Progressively, the Reserve Bank has increased the proportion of liquidity injected in the LAF through term-repos.

Term Repos: Since October 2013, the Reserve Bank has introduced term repos (of different tenors, such as, 7/14/28/56 days), to inject liquidity over a period that is longer than overnight. The aim of term repo is to help develop inter-bank money market, which in turn can set market based benchmarks for pricing of loans and deposits, and through that improve transmission of monetary policy.

Marginal Standing Facility (MSF): A facility under which scheduled commercial banks can borrow additional amount of overnight money from the Reserve Bank by dipping into their SLR portfolio up to a limit (currently two per cent of their net demand and time liabilities deposits) at a penal rate of interest (currently 50 basis points above the repo rate). This provides a safety valve against unanticipated liquidity shocks to the banking system. MSF rate and reverse repo rate determine the corridor for the daily movement in short term money market interest rates.

Open Market Operations (OMOs): These include both, outright purchase/sale of government securities (for injection/absorption of liquidity)

Bank Rate: It is the rate at which the Reserve Bank is ready to buy or rediscount bills of exchange or other commercial

papers. This rate has been aligned to the MSF rate and, therefore, changes automatically as and when the MSF rate changes alongside policy repo rate changes.

Market Stabilization Scheme (MSS): This instrument for monetary management was introduced in 2004. Surplus liquidity of a more enduring nature arising from large capital inflows is absorbed through sale of short-dated government securities and treasury bills. The mobilised cash is held in a separate government account with the Reserve Bank. The instrument thus has features of both, SLR

Literature Survey
The review studied is from both Indian and aboard stock market. The Indian authors examine the relationship between Indian stock market index (BSE sensex) and five macro economic variables namely WPI, IPI, money supply, exchange rates, it is observed that stock prices relate to money supply is positive but relation to inflation is negative and finally conclude that there is bidirectional causality exists between industrial production and stock price and unidirectional causality from money supply to stock price. Foreign authors investigates interest rate changes on sectoral stock returns and also identify the impact of monetary policy on stock market and conclude that expected and unexpected interest changes is negative and significant, in future stock market could be effective channel in transmitting monetary policy rather than traditional credit channel. In our work we measure monetary policy by standard instruments (LAF, SLR etc) issued by Reserve Bank of India and observe its impact on Indian stock market in last three years.

Objectives
To effectively measure monetary policy and its impact on Indian stock market returns.

Methodology
The present study uses the time series data obtained from the main source i.e. official website of Indian Economy provided by Reserve Bank of India. The study employs the time series data analysis technique to study the relationship between the stock market index and selected macro-economic variables.

Analysis and Presentation
Monetary conditions remain consistent with the anti-inflationary bias. During 2010-11, the monetary and liquidity conditions remained consistent with the anti-inflationary stance. The monetary policy stance of the Reserve Bank shifted to tightening mode since October 2009 in response to rising inflationary pressures.
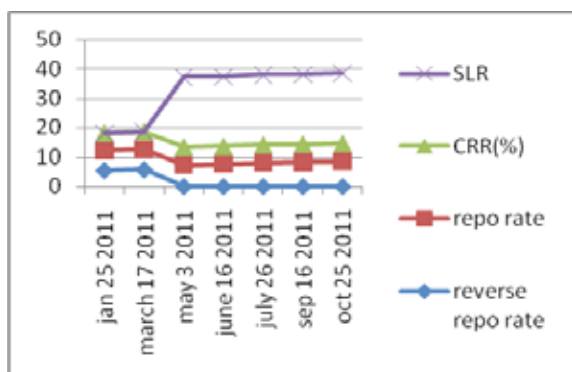
Figure 1: Key policy rates in india in 2011

The calibrated policy actions so far have not been disruptive to growth. The Reserve Bank increased cash reserve ratio by 100 basis points (bps), reverse repo rate by 250 bps, and the repo rate by 200 bps since February 2010 so far. A shift from absorption mode to injection mode in the liquidity adjustment facility (LAF) implies effective rise in policy rates by 350 bps since February 2010 (Figure 1).
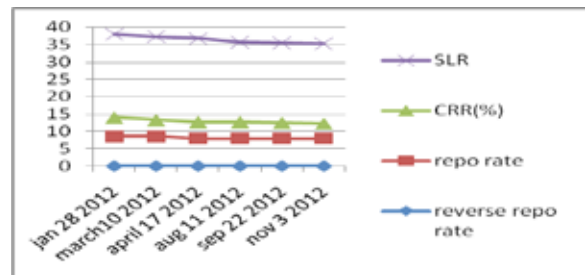
Figure 2: Key policy rates in india in 2012

The Reserve Bank persisted with its monetary tightening between February 2010 and October 2011 with continuing inflation risks. In this cycle, policy rates were effectively raised by 525 bps starting in March 2010. The tightening was necessary even if it meant sacrificing some growth in the short term as the risks from high inflation to the economy's sustainable growth rate were large. As expected, domestic demand slowed, partly due to monetary policy actions. Following moderation in demand-side pressures, headline inflation started moderating in line with the anticipated trajectory, which led the Reserve Bank to shift gears to a neutral policy stance. The shift was motivated to a substantial extent by deceleration in investment activity as well as expected deceleration in consumption demand (Figure 2).
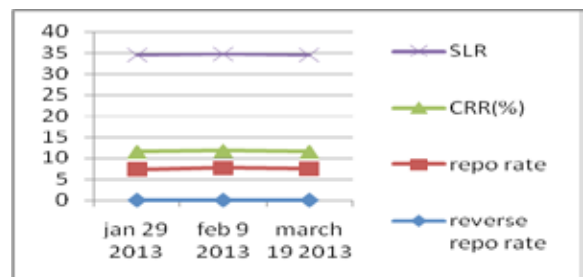
Figure 3: Key policy rates in india in 2013

The Reserve Bank has been managing the growth-infl ation dynamics based on the tenet that low and stable infl ation secures sustained high medium-term growth and facilitates consumers' and investors' decision-making. The macroeconomic priorities that have shaped recent monetary policy making include the need to address growth slowdown, restrain infl ation pressures and mitigate vulnerabilities in the external sector. Taking cognizance of falling growth, the Reserve Bank lowered policy interest rate and the SLR by 100 bps each, and the CRR by 75 bps in 2012-13 on top of a 125 bps cut in the CRR in Q4 of 2011-12 (as in Figure 3)
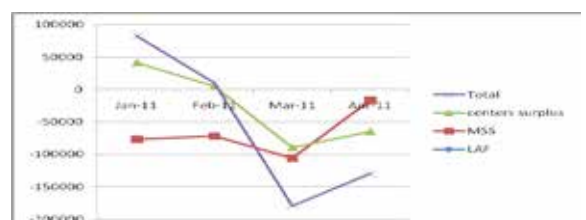
Figure 4: Liquidity position in 2011

Liquidity conditions soften as structural and frictional liquidity drivers ease. After a phase of significant tightness, both structural and frictional drivers of deficit liquidity conditions softened relatively during the fourth quarter of 2010-11 (Figure 4). Liquidity conditions had switched to deficit mode since end-May 2010, due to large increase in government balances with the Reserve Bank resulting from 3G/BWA auctions and the first installment of quarterly advance tax payments). The Reserve Bank initiated several policy measures to ease the liquidity pressure viz., allowing SCBs to avail of additional liquidity support under the LAF and conducting second LAF (SLAF) on a daily basis.

The Reserve Bank in its Third Quarter Review of Monetary Policy on January 28, 2014,
Frictional pressures arising from elevated central government cash balances with the Reserve Bank and a rise in currency in circulation contributed to tight liquidity conditions in the fi rst half of February 2014. However, on the back of signifi cant drawdown in the government's cash balances post the 'Vote on Account' presentation on February 17, 2014, and the injection of additional liquidity through term repos, the strains on liquidity eased. V.3 This was reflected in the underutilisation of the limit under the overnight LAF and reduced borrowings under MSF. The daily recourse to LAF (including term repo and MSF) declined from around `1.3 trillion in mid February to `0.9 trillion in early March 2014. Narrowing of the wedge between credit and deposit growth also contributed to a reduction in the liquidity deficit. To manage evolving liquidity pressures, the Reserve Bank injected liquidity of about `95 billion through OMO outright purchase auction during Q4 of 2013-14, in addition to providing liquidity through overnight repo, MSF and term repos and CRR. However, liquidity conditions tightened from mid-March 2014 on the back of advance tax outflows. In order to address the anticipated tightening in liquidity conditions and with a view to providing flexibility to the banking system in its liquidity management towards end-March, the Reserve Bank announced term repos of various tenors in March 2014. During Q4, an average `1.1 trillion has been injected on a daily basis via LAF, MSF and term repos and `397 billion through ECR. Pick-up in currency and domestic assets support growth in monetary indicators V.6 In line with the domestic liquidity situation, reserve money increased by `313 billion in Q4 of 2013-14 driven by currency in circulation on the components side and net domestic assets, in particular net credit to the centre, on the sources side. Money supply growth (M3) has averaged 14.5 per cent (y-o-y) in Q4 (up to March 7, 2014), the same as in Q3. For instance, liquidity is important for an economy to spur growth. To maintain liquidity, the RBI is dependent on the monetary policy. By purchasing bonds through open market operations, the RBI introduces money in the system and reduces the interest rate. The stock markets and their indicators in the form of indices, reflect the potential, the direction and health of the economy. When thinking about monetary policy one might assume that the main objective for the central bank is to use their tools and instruments to maintain stable prices and a stable inflation. One might also think that they always will focus on the inflation. But for the last 20 years the central banks have successfully been bringing the inflation under control. This can be seen in graph I, it is quite obvious from the shape of the two lines that inflation was more volatile in the period before 1982 (blue line) than in the period from 1982 to today (red line). In fact, the variance of the inflation was 14,32% in that period while it only is 2,26% in the period after. Even though it might be early to suggest that inflation

no longer is a great issue, it is realistic to argue that the central banks next battle will lie on financial stability. This research is important because stocks can be a part of individuals wealth and thus if the values of stocks increases, so will the wealth of the individuals, resulting in a higher consumption and a greater GDP (Gross Domestic Product). Monetary policy news affects the stock market. Regardless of the policy type, investors will react. The type of policy that is implemented and its size should determine the magnitude of the reaction. Macroeconomic variables give important information about the present and future state of the economy and thus, a change in some of these variables should therefore change the expectation about the future. A rational investor takes account for all relevant information when making a decision and a change in monetary policy would thereby change the behaviour of the investor.

RBI's Decision At its First Bi-monthly Monetary Policy Statement for 2014-15 on the 1st of April, the RBI:
1. Maintained the policy Repo Rate at 8%
2. Kept the Marginal Standing Facility Rate unchanged at 9%
3. Held the Cash Reserve Ratio stable (CRR) at 4%.

RBI decided to remain on hold to observe the effects of the recent rate rises. What has clearly emerged is the RBI remains firmly committed to the disinflationary path, aiming for headline CPI to decline to 8% by January 2015, and 6% by January 2016.

Turning to recent inflation outcomes, there has been a decline in various measures of Headline inflation. The all-important New CPI measure decelerated to 8.1%, the lowest since January 2012. Industrial Workers CPI fell to a low of 6.7%, and Wholesale Price inflation too declined to 4.7%, the lowest since May 2013. One of the driving factors behind these much improved outcomes has been the sharp deceleration in vegetable prices. From a recent peak of 61% over the year to November 2013t, they have eased considerably to 14% over the year to February 2014.

First Bi-monthly Monetary Policy Statement, 2015-16
Monetary and Liquidity Measures On the basis of an assessment of the current and evolving macroeconomic situation, it has been decided to:

• Keep the policy repo rate under the liquidity adjustment facility (LAF) unchanged at 7.5 per cent;

• Keep the cash reserve ratio (CRR) of scheduled banks unchanged at 4.0 per cent of net demand and time liability (NDTL).

• Continue to provide liquidity under overnight repos at 0.25 per cent of bank-wise NDTL at the LAF repo rate and liquidity under 7-day and 14-day term repos of up to 0.75 per cent of NDTL of the banking system through auctions; and

• Continue with daily variable rate repos and reverse repos to smooth liquidity. Consequently, the reverse repo rate under the LAF will remain unchanged at 6.5 per cent, and the marginal standing facility (MSF) rate and the Bank Rate at 8.5 per cent.

Wholesale Price Inflation:
The uncertainty in the global growth outlook and volatility in commodity prices impart considerable uncertainty on the nearterm global inflation outlook. Incomplete deleveraging of the private sector and the urgency of fiscal con-

solidation in many parts of the AEs to reduce the looming debt burden may further weaken demand-side risks to inflation. On the other hand, sustained easy monetary conditions and supply disruptions in commodity markets pose significant upside risks.

Low inflation, even below the inflation targets in the case of several AEs, provided space to extend their monetary accommodation through unconventional monetary policies. Policy rates in several AEs remained at the zero lower bound, prompting them to undertake further doses of quantitative easing (QE). Some other AEs that had space lowered policy rates further. The central banks of AEs continue to stimulate protracted recovery along with well-anchored inflation expectations. While the immediate risk of global inflation resurgence remains low, once recovery shapes up,inflation concerns could resurface given the presence of excess global liquidity.

Conclusion

The study has been undertaken for the purpose of exploring the impact of monetary policy and stocks from 2011-2015. Previous literature shows that several studies have been conducted in this context. The results shows that changes in cash reserve ratio, LAF, SLR, reverse repo rate, repo rate have some information content for the stock market that may lead to changes in the stock prices and to aggregate stock market returns. Monetary actions measures taken by central bank affect macro economic variables such as Money supply, Inflation, and Interest rates in the economy, which may affect stock prices.

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