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Muhammad Nadim Hanif

State Bank of Pakistan

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Abstract

Using monetary policy rate and/or changes in certain liquidity ratios, State Bank of Pakistan influences cost and/or availability of money and credit in the country to achieve (government announced) inflation target without being prejudice to real economic growth target. Earlier, SBP had been following monetary aggregate targeting to achieve its objectives. Reserve money had been used as an operational target. After weakening of broad money growth and inflation relation (as a result of financial sector reforms and restructuring), SBP transferred the operational target to the overnight money market repo rate. Various monetary conditions indicators are used to decide on the direction and magnitude of monetary policy stance. Budget deficit (with its financing mix), money supply (with its composition), local currency prices of imported goods, wheat support price, and expected (higher) inflation play an significant role in generating inflation while real income growth, and (international trade) openness help dampening it. Inflation in Pakistan has been found equals to rate of broad money growth minus the real output growth which simply shows inflation in Pakistan has mainly been a monetary phenomenon. Monetary policy has provided stable background for the economy as we saw standard deviations for inflation and broad money growth to be same during 1951-2010. Financial sector reforms and restructuring (after end 1980s) helped lower the (broad money growth and) inflation volatility in the country.

1. Introduction

The making and conduct (operation) of monetary policy in Pakistan is the responsibility of State Bank of Pakistan (SBP). Monetary policy, in coordination with the fiscal and other relevant policies, influences the level of aggregate demand in order to achieve noninflationary sustainable growth.

The economy can operate at any level of national income and employment (within the production frontier), depending on the state of aggregate demand. An insufficiency of aggregate demand results in unemployment (as has been observed in 1990s in Pakistan which some economists described as lost decade for Pakistan²) and an excess demand results in inflation (as has been observed in middle of 2000s when some economists thought Pakistan economy was over-heating and we observed double digit inflation in the country during FY08 to FY12). The overall level of demand includes investment as well as consumption expenditure, both of which depend upon the availability and cost of money and credit in an economy. SBP uses its policy rate and changes in some liquidity ratios (e.g. cash reserves

¹ Author is Senior Economist at Research Department, State Bank of Pakistan (the central bank). The views expressed in this study are those of the author and do not necessarily reflect views of the State Bank of Pakistan. Author would like to thank Mohsin S. Khan, Riaz Riazuddin, Farooq Arby, Mahmood ul Hassan Khan, and Amjad Ali for their comments on the earlier drafts of this paper. All errors are mine.

² See Hussain (2002).

requirements) to affect the cost and availability of money and credit (and thus the aggregate demand) in the economy.

If there is deficiency in aggregate demand, national income and employment can be raised by increasing the money supply and making credit relatively cheap and easy to come by. Conversely, when a state of full employment has been reached it will then be necessary to restrain further increases in money and credit (in order to tame inflation); which in the absence of any improvement in productivity, will be the likely result of an excess demand situation. Internal imbalances in a country are also reflected in external accounts of the economy. Certain aspects of monetary policy also play role to correct external imbalance(s). High policy rates may be necessary at times of worsening of balance of payments³, and/or when foreign interest rates are rising; to discourage foreigners to withdraw short term investments and reducing pressure on country's foreign exchange reserves. It can not only discourage withdrawal of foreign funds but may also attract them and thus help finance a payments deficit and keep it from causing a drop in foreign exchange reserves.

Being central bank of the country, SBP issues its monetary policy statement(s) to announce its measures related to policy⁴ and conduct of monetary management in the Pakistan. In this study we would like to explore the monetary policy experience of Pakistan during the period of over half a century. There is need to explain the monetary policy framework in Pakistan before shedding light over the experience. The last section is reserved for concluding remarks.

2. Monetary Policy Framework in Pakistan

2.1 Objectives of Monetary Policy

State Bank of Pakistan (SBP) Act 1956 provides legal setup for monetary policy framework in Pakistan. Readings from SBP reports particularly after adopting market based exchange-rate shows that focus of SBP is on both on price stability and economic growth and focus on earlier entails a bit of attention to exchange rate⁵. The Act also provides necessary powers for operational mechanism of monetary policy (MP) and central bank independence. It also provides an arrangement for relationship between monetary and fiscal authorities that is the SBP and the government.

The Act entrusts upon SBP to regulate the monetary and credit system of Pakistan and to foster its growth to secure monetary stability and fuller utilization of country's productive resources. It is at the disposal of SBP to choose a monetary policy framework to achieve these objectives broadly. Monetary stability means price stability. According to Section 9-A (a) of the Act, State Bank is to conduct monetary

³ See, for example, Monetary Policy Decision of April 12, 2013.

⁴ Or, to explain reasons for 'inaction.'

⁵ There is a debate of the single vs multiple objective of monetary policy. Hoskins (1993) terms absence of a single, clear, measurable, and attainable objective of monetary Policy as shortcoming. White (2006) argues that the benefits of single objective of price stability are overstated. We are not going into this debate in this paper.

and credit policy consistent with government's targets⁶ for real (GDP) growth and inflation⁷. Over the years SBP priority has shifted from growth to balance of payments to inflation. Inflation services as nominal anchor as its target is explicitly announced by the government of Pakistan on annual basis, and then SBP periodically share inflation forecasts with public in its flagship publications including monetary policy statements.

Through the history of Pakistan, while overall objectives of monetary policy have remained the same, the policy contents – intermediate target, choice of instrument(s) and control etc. – have varied considerably over the years. By the middle of 2000s the nature of Pakistan's monetary policy had been considered as discretionary [(Zaidi (2006))]. However, concerted efforts have been made during the last few years to make monetary policy transparent and credible by taking committee based decisions and issuing monetary policy statements.

2.2 *Monetary Policy Regime in Pakistan.*

Convinced with the fashion in the other countries' central banks during the post World War II period (when Pakistan got independence in 1947 and SBP was established a year later), officials in State Bank of Pakistan followed monetarism in a bid to achieve monetary stability. Monetarism refers to the view that monetary policy is a prime source of the business cycle and a constant monetary growth rule can be followed as an attempt to smooth out the fluctuations in output growth. Based on the assumption that there exists a stable relation between monetary aggregates and inflation, central bank achieves price stability by monetary aggregates targeting⁸. For this purpose SBP had been targeting growth in broad money supply within a desirable limit. M2 was targeted on the basis of an estimated money demand function taking into account government's annual economic growth and inflation targets for the year. For targeting inflation M2 had been used as intermediate target and M0 had been used as operational target. SBP was following reserve money program to come up with the desired quantum of open market operations. However, structural changes both in the economy as well as in the financial sector, financial innovations and uses technological advancements significantly weakened the relation between inflation and money [Moinuddin (2007), Hanif et al (2010)].

Pakistan has gradually moved from monetary aggregate targeting to an eclectic approach during the period of last two decades. National Credit Consultative Council has been restructured into a Private Credit Advisory Committee (PCAC) and rather than announcing the detailed credit plan for a year SBP started giving just an 'indicative' M2 target based upon government announced growth and inflation

⁶ Announced by the government in its annual plan.

⁷ Different countries use different measures of inflation. In Pakistan data on various price indices are available like Consumer Price Index (CPI), Wholesale Price Index (WPI), GDP deflator and Sensitive Price Index (SPI). State Bank of Pakistan tracks inflation measured by growth in 12 month moving average of Consumer Price Index (CPI). CPI data is compiled by Pakistan Bureau of Statistics (PBS) which releases monthly CPI data without any lag. A short discussion on the trends in prices/inflation data is regularly made by PBS itself in its monthly release "Monthly Inflation Review."

⁸ We had evidence of stable money demand function in studies for Pakistan using data up to late 1990s [Sassanpour and Moinuddin (1993), Khan (1994), Khan et al (2000)].

targets and assessing the trends of NDA and NFA. Exchange rate is now market driven. SBP has been pursuing the goal of price stability without being prejudice to economic growth. For some years when M2 growth was used an indicative target, it served as intermediate target, however, since FY10 SBP has abandoned targets for M2 growth. Furthermore the operational target has been transformed from reserve money to the overnight⁹ money market repo rate¹⁰ effective from January 2009. With open market operations (OMOs) the movement of overnight money market repo rate is restricted within the 'corridor'¹¹ of SBP's overnight reverse repo rate (the discount rate) and the SBP's overnight repo rate. Monetary policy stance is signaled through change(s) in discount rate; and/or cash reserve requirements; and/or statutory liquid ratio; and/or other measures¹² like those pertaining to terms and availability of subsidized credit for export refinance, agriculture production etc. A prudent combination of monetary policy instruments helps SBP maintain the desired price and related availability of money and credit in the economy. Changes in short term interest rates are not necessarily (and not always) linked to the long term interest rate¹³ and thus yield curve does not predict the consumption, investment and output behaviour. It is mainly the availability of credit which affects investment and output behaviour in the country (see Agha et al 2005).

Monetary conditions indicators are used to obtain information on how and when SBP may need to adjust the policy stance (to get closer to the ultimate goal of price stability without being prejudice to economic growth). These indicators include various measures of inflation¹⁴, (some proxy of) output gap balance of payments, exchange rate etc; or some combination of any of these (like monetary/financial conditions index). The intermediate and operational targets of past (i.e., broad money and the reserve money) are also used as indicators in addition to their disaggregated levels like NDA and NFA and even further levels of disaggregation (e.g., credit to private and government sectors/subsectors).

2.3 *Independence of State Bank of Pakistan*

A central bank without operational autonomy cannot credibly commit to price stability as the public will be aware of the dynamic inconsistency of its announcements and actions. An independent monetary authority can create incentives for, or might even force greater fiscal discipline on the part of the government. The State Bank was granted operational autonomy in February 1994 by making amendments in the State Bank of Pakistan Act, 1956. The Bank now enjoys complete freedom to prescribe liquidity ratio for banks and to fix their cash reserves. On January 21, 1997, the State Bank's

⁹ It is generally recognized that central banks can control best the very short end of the yield curve.

¹⁰ The movement of the overnight money market repo rate restricted within the corridor of discount rate (SBP's overnight reverse repo rate) as the ceiling and SBP overnight repo rate as the floor.

¹¹ Earlier this corridor was 300 bsp. Now a day this corridor is of 250 bsp (See State Bank of Pakistan, 2013).

¹² Which are though not generally considered as tools of monetary policy as such; however, they have potential to improve monetary policy effectiveness.

¹³ To read about the episodic disconnect between short and long term rates, see SBP quarterly report on the state of Pakistan economy for Q1-FY15.

¹⁴ Including core inflation.

autonomy was further strengthened by three ordinances¹⁵ amending State Bank of Pakistan Act, 1956, Banking Companies Ordinance, 1962 and Banks Nationalization Act, 1974. According to new rules (a) the Central Board of Director of SBP is authorized to formulate and conduct credit policy by taking into account national macroeconomic targets¹⁶ (section 9-A), and (b) no governmental or quasi governmental body can issue any such directive to any financial institution controlled by SBP, that are inconsistent with the policies, regulations and directives issued by the Bank (section 46-B). To enhance its monitoring, government has made State Bank responsible for quarterly reporting to the Parliament, in addition to the annual report on the state of the economy. Now SBP issues Monetary Policy Statement (MPS) on alternate months to announce its monetary policy stance for the upcoming two months.

As a part of efforts to increase credibility, SBP recently announced formation of a nine member monetary policy committee (MPC) for monetary policy decision making. MPC included Governor, Deputy Governor, three officials of SBP, and two central board members (not representing government) of the State Bank in addition to two external experts. In the recent most amendment to SBP Act 1956 (i.e., State Bank of Pakistan Amendment Act 2011¹⁷) SBP proposal of an independent MPC could not get approval from the government. Had the original proposal to have outside economists as members of the SBP-MPC ((as many central banks around the world have)) been legislated by the government it would have given more credibility to SBP monetary policy decision making. However, this amendment mentioned of such (now as an SBP internal) committee by strengthening SBP independence through amendment in section 46B by introducing a new subsection, namely: “(2) The Bank, the members of the Central Board or the staff of the Bank, shall not take instructions from any other person or entity, including government or quasi government entities. The autonomy of the Bank shall be respected at all times and no person or entity shall seek to influence the members of the Central Board and Monetary Policy Committee in the performance of their functions or interfere in the activities of the Bank.” MPS is prepared by SBP officials of relevant department(s) and then presented in the (internal) monetary policy related meeting. The final decision of the central board of directors of SBP is then announced.

According to SBP Act 1956, Section 9A(b), Central Board of the SBP determines and enforces, in addition to the overall expansion of liquidity, the limit of credit to be extended by the SBP to the Federal and provincial governments and their other agencies for all purposes. But, it is also an empirical fact that the government continued to borrow to finance its budget deficit from the banking system (SBP and/or commercial banks) as SBP has been providing sufficient liquidity to the market when/where necessary. Under the Act, government borrowing (from SBP) shall be brought to zero at the end of each quarter barring the ways and means limit that would be determined by the Central Board from time to time. However, the debt of the Federal Government owed to the Bank as on April 30, 2011 shall be retired not

¹⁵ Approved by the Parliament in May, 1997

¹⁶ It is only the operational independence that has been granted to the State Bank and not the target independence. Operational independence means no one can tell the State Bank what to do. Target independence means setting objective to be pursued itself

¹⁷ Signed by the President of the country on March 13, 2012

later than eight years from that date. If any of the provisions about government borrowings are not observed by the Federal Government, the Finance Minister shall place¹⁸ before the Parliament a statement giving a detailed justification for the failure.

2.4 *Monetary Policy Communication and Transparency at SBP*

Monetary Policy is not all about setting/getting a target for , the inflation or some monetary aggregate; communication with the public about policy goals and operational framework is also an important strategy for successful monetary policy, as it can influence the credibility of the central bank and hence the effectiveness of the policy initiative and thus the outcome [BIS (2006)]. The conventional wisdom about the transmission of monetary policy (with aggregate demand and aggregate supply) is still relevant but has been augmented by the role of expectations. In view of some economists, monetary policy today is all about managing expectations. SBP gauges inflation expectations of consumers in Pakistan, using a set of questions in its regular consumer confidence survey (on alternate month). It was started in January 2012 and it will take some time to build a series which may be disseminated for researchers and academicians.

The transparency of monetary policy is enhanced if decision making body of the central bank required publishing minutes of its meeting and/or the reasons based upon which decisions it has taken. In the past central banks were associated with secrecy. However, over the last decade or so things have changed and transparency has become one of the key features of the monetary policy management. About three-fourth of the central banks around the world consider publishing minutes of the monetary policy related meeting an important component of their monetary policy framework. Transparency reduces the information asymmetries between the central bank and the private sector. It leads to relative better management of inflation expectations by market participant and private sector. With the introduction of issuance of Monetary Policy Statement, SBP has moved explicitly towards a relatively transparent monetary policy.

SBP has following way to communicate to the public. Monetary Policy Statement is issued on alternate months to media representatives and on SBP website. Twice a year (detailed) MPS is issued by the Governor through press conference while on four other occasions monetary policy decisions are announced through a press release. These statements are issued in national language (Urdu) in addition to English. Other than issuing MPS on alternate month, SBP also publishes Monetary Policy Information Compendium. These two documents explain the State Bank's monetary policy stance for upcoming two months, its assessment of prevailing macro environment, and the future outlook (in the short run)¹⁹. Furthermore, a detailed analysis of the trends in prices data is regularly made by SBP in its "Inflation Monitor." In addition, SBP also publishes annual and quarterly reports on the state of economy, quarterly banking system review, annual financial stability report, and speeches of the SBP Governor.

¹⁸ Unfortunately, this does not require approval of the Parliament.

¹⁹ For some period of time SBP also published minutes of (its internal) MPC meeting including the votes (without mentioning names of the voters) to and against the announced monetary policy stance.

2.5 *What Monetary Policy Can Do and What Can Not*

Though SBP is to achieve multiple targets, particularly realization of growth and inflation control, we will discuss below what empirical studies have shown the role of monetary factors in inflation in Pakistan. There are both supply as well as demand side factors that play role in controlling inflation in Pakistan²⁰. Many studies have attempted to study determinants of inflation in Pakistan. Prominent among these include: Bilquees (1981), Hussain (1988), Naqvi and Khan (1989), Naqvi and Khan (1989), Hasan et al. (1995), Chaudhary and Ahmed (1996), Nasim (1997), Ahmed and Ali (1999), Bokil and Schimmelpfennig (2005), Hanif and Batool (2006), and Hanif et al (2010). The core of these findings is that budget deficit, money supply, prices of imported goods (either through exchange rate effect or through world prices effect), procurement prices²¹ (particularly wheat prices), and expected inflation, play an important role in generating inflation while real income growth and openness, play a significant role in dampening it. It means monetary policy can help control inflation up to the extent role played by influencing the price/availability of money, and stability in exchange rate. Any monetary growth surprise (growth in money supply larger than what it should be as per inflation and real income growth targets) will result in next year's inflation surprise (inflation over and above the target)²². Fiscal deficit and, and its financing mix, has direct implications for monetary management by the central bank and inflation in the country. It falls in the domain of government to keep fiscal deficit in check and use least inflationary distribution of financing the deficit from central bank, commercial banks, non-bank and external sources. Furthermore, whenever there are supply shocks they need to be managed with timely and proper response from the government.

3 **Monetary Policy Experience of Pakistan**

Based upon last six decades' averages, inflation in Pakistan has been roughly equal to rate of broad money growth minus the real output growth which simply means inflation in Pakistan has been a monetary phenomenon. Being a developing country, Pakistan had been more concerned with the availability of credit to generate economic activity than to regulate the price of credit, during more than half of this period. In order to fulfill the developmental needs of the country in early period, SBP followed expansionary stance and bulk of the monetary sector expansion was on account of the credit to government sector at subsidized rate. However, this expansionary monetary policy did not contribute to the price instability in anyway as in the period up to 1960 inadequacy of credit was contributing to price instability by adversely affecting the production and supply side of the economy [(Janjua 2004)]. Average monetary expansion, and thus inflation, had been lowest in 1950s and second lowest in 1960s as compared to other decades (Table 1).

Wide ranging reforms introduced in May 1972 aimed at soundness and efficiency of the banking system, purposeful and equitable distribution of credit envisaged setting up of an institutional framework to

²⁰ And this is what helps us understand why SBP targets more than one variable.

²¹ Earlier there was a regime of purely administered prices in Pakistan. Now government just announces indicative price of wheat.

²² See Hanif (2009).

achieve goals of monetary policy. National Credit Consultative Council was established in 1972 with a view to enhance the allocational efficiency of the credit²³. It had members from government as well as private sector. It used to meet bi-annually and assess the needs of the private sector credit requirement in the light of growth targets set by the federal government and government credit requirements considering fiscal situation and set credit targets for the private and government sectors from banking system considering that the growth of net domestic assets remain within such limit that by including the expected net foreign assets the overall monetary assets growth remained consistent with the annual inflation and real GDP growth targets set by the government.

The period between 1972-73 and 1989-90 was marked with suppressed financial sector characterized by credit ceiling, directed and subsidized credit, control on deposit and lending rates, etc. The direct methods of monetary control severely affected the banks' ability to respond flexibly to the credit demands of the economy. Mandatory allocations of banks credit for priority sectors, irrespective of their economic efficiency, and a regime of concessionary interest rates created distortions in the market and undermined the strength of the financial system [(Hanif, 2003)]. Inflation quadrupled in 1970s as compared to what it was during 1951-1970 and Pakistan became a high inflation country from relatively low inflation country which was later brought under some control in 1980s but never went back to the steady state levels of 1951-1970 (3.1%) rather jumped to three times in 1971-2010 (9.5%).

State Bank of Pakistan has been using the direct measures of monetary policy including Cash Reserve Requirements (CRR), Statutory Liquidity Ratio (SLR), Selective Credit Controls, Quota System, Directed and Subsidized Credit, and interest rates ceilings/floors up to 1990. Interest rate as an instrument of monetary policy was rarely used as can be seen by figure 1 in the Appendix²⁴. SBP was of the view that the effectiveness of interest rate change in the economy was subject to many constraints like small ratio of bank credit to GDP, imperfections in the markets etc. But still, it had been used at times to defend exchange rate.

After 1990 financial structure of Pakistan has been transformed into a market oriented predominantly private system, which was put under strong regulatory framework and supervised by effective legal/judicial system, intermediating resources in response to price signals independent of vested interest. Effective from February 1992, SBP has been signaling its stance mainly using policy rate as compared to other measures on monetary management. As we discussed above State Bank of Pakistan tracks inflation measured by 12 month moving average of consumer price index (CPI). 12 monthly moving average of headline inflation somehow reduces the noise pertaining to seasonal patterns of prices. There may be other sources of noise in inflation like those related to broad based resource

²³ Recognizing the importance of supply side factors in the control of inflation in Pakistan being an agriculture based economy another body named Agricultural Credit Advisory Committee (ACAC) was also set up to assess and ensure the credit needs of agriculture production sector. An Industrial Credit Advisory Committee was also set up in 1984 but it was later merged with NCCC in 1996. In order to demarcate impediments in credit availability to different sectors of economy, and to obtain suggestions for private sector's access to credit for broad based economic growth in the country SBP restructured NCCC on January 19, 2007 as Private Sector Credit Advisory Committee (PSCAC) which meets biannually.

²⁴ This is evident from the fact that before March 01, 1994 any change in the discount rate was unidirectional (an increase)!

shocks, exchange rate changes, changes in indirect taxes, and asynchronous prices adjustments [Cecchetti (1997)]. Long run trend in the underlying inflation can be measured by extending the 12 months window to, say 36, months. We can observe that in the case of Pakistan the discount rate changes, after February 1992, have been broadly made according to change in trend inflation measured by 36 month moving average of headline inflation (See figure 1) though never explicitly stated by State Bank of Pakistan.

Impressed by the heroic works by McKinnon (1973) and Shaw (1973), other empirical studies in favour of financial liberalization, and conditionalities put by international donor agencies, Pakistan adopted a process of financial restructuring in end 1980s and early 1990s which continued during 2000s. It resulted in marked deviations from earlier practices of monetary management and resulted in stabilization of economy (See Table 1). It essentially marked a transition from administrative controls and quantitative restrictions to market-based instruments as we discuss below in detail.

- The credit ceiling (for commercial banks) as an instrument of credit control was abolished w.e.f. August, 1992 and replaced by CDR, which was removed subsequently on 30th September 1995. The indicative target framework was abandoned since the beginning of FY02. This allowed market forces to play their role in determining growth and allocation of banks' credit to private sector.
- In order to bring flexibility in accommodating short term liquidity requirements of financial institutions, a 3-Day (reverse) Repo facility was introduced by SBP from 1st February, 1992. Now State Bank also provides a repo facility to banks to park excess liquidity at policy rate minus 2.5 percent.
- Open Market Operation (OMO) became the major instrument of monetary policy in Pakistan. A reserve money management programme was developed at SBP under which the intermediate target of M2 was achieved by controlling the desired path of operating target i.e. reserve money. SBP has recently adopted new operational target namely; overnight money market repo rate as we discussed above.
- Pak Rupee was put on free float in May 1999, and in better sense in July 2000, and thus monetary and exchange rate policies are thought to be fully integrated. However, SBP intervenes in the foreign exchange market as and when necessary to take care of the excessive volatility in the market.
- The restructuring of interest rate was undertaken in various dimensions: public debt; concessional rates; and caps on lending and deposit rates. In March 1991, a full-fledged auctioning system was introduced, and systems of on-tap and ad-hoc treasury bills were done away with in 1991 when government started selling 6-month Treasury Bills through auctions. The cut off rates on government securities were determined by SBP since 1994. In efforts to create a long-term yield curve of government securities that will provide a pricing bench mark for private sector securities, State Bank launched the Pakistan Investment Bond in December

2000 for which cut off yields are determined by the government. Before the introduction of the overnight money market repo rate as operation target of monetary policy, as we discussed above, SBP transferred the task to determine the cut off rates on 6-month Treasury Bills in the fortnightly T-bill auctions to the MoF and thus separated the debt and monetary management in Pakistan.

- Restrictions on banks' maximum lending rates except concessionary finance schemes were removed earlier in 1995. Since July 26, 1997, minimum lending rate was also been abolished. Effective June 16, 1998, SBP allowed banks and other financial institutions to determine their own deposit rates²⁵. Interest rate liberalization has given the banks an opportunity to charge market prices on their asset portfolio and at the same time helped SBP to use interest rate channel in addition to credit channel of monetary policy transmission mechanism.
- The margins of subsidy on special financing schemes including LMM, LTFF and EFS are in the process of gradual reduction²⁶.
- Steps to make interest rates more market oriented were accompanied by rationalization of reserve requirements and substantial reduction in SLR. Effective 1993, changes in reserve requirements do not need government approval. Accordingly, SBP has been using this instrument to supplement OMOs as and when required. Furthermore, in order to incentivize banks to encourage time deposits, SBP adopted multiple CRR system effective from July 22, 2006. Since August 04, 2007 CRR is applicable only to the demand liabilities of banks (See Table 3).
- For the purpose of regulating the monetary and credit system (of the country), SBP has been allowed (through State Bank of Pakistan Amendment Act 2011) to issue certificates of deposit and new instruments including those that are Shariah compliant.

As discussed, monetary policy, in coordination with the fiscal policy²⁷ and other relevant policies, influences the level of aggregate demand in order to achieve noninflationary sustainable growth. But what are the ways through which monetary policy affects the economy in Pakistan or in other words what is the monetary policy transmission mechanism in Pakistan? While studying the relative importance of interest rate channel, credit channel, exchange rate channel and asset prices channel for Pakistan; Agha et al (2005) observe that while other channels have yet to fully manifest themselves,

²⁵ However, in order to protect the interests of the depositors, SBP introduced a floor of 5% profit rate on deposits effective from June 01, 2008. This floor was raised to 6% on May 1, 2012.

²⁶ LMM is a financing scheme for (purchase of) locally manufactured machine, LTFF is long term financing facility, and EFS is exports refinance scheme.

²⁷ Empirically, monetary and fiscal policies in Pakistan had been executed independently throughout the period (1964-65 to 2008-09) studied by Arby and Hanif (2010). In a hope for relatively better coordination between monetary and fiscal policies, the already provisioned (through SBP Amendment Act 1994) Monetary and Fiscal Policies Coordination Board has been enlarged, with State Bank of Pakistan Amendment Act 2011, by adding two eminent macro or monetary economists with proven record of research and teaching (to be appointed by the Federal Government).

banks have been observed to play a major role in transmission mechanism with (private sector) credit as the leading indicator. While providing and empirical update on the impact of an unanticipated change in monetary policy on (industrial) output growth and inflation in Pakistan Khan (2008) found that impact of shock to monetary policy takes 12 to 18 month to have up to 90 percent of its impact on inflation.

What guides the SBP to policy path to achieve the noninflationary stable growth? As we discussed in the beginning: when aggregate demand in the economy exceeds the potential level of the country, it results lower unemployment but increase in inflation with some lag. Under such circumstances the monetary authority would like to choose a policy path which checks the aggregate demand that is contractionary monetary policy. An insufficiency of aggregate demand results in unemployment, country produces lower than the potential of its people and resources, and thus results in low inflation (and even deflation) with some lag. It necessitate the monetary authority to choose such a policy which encourage the spending, particularly investment spending that is expansionary monetary policy. Thus, there is a trade-off between (monetary/price) stability in the country and fuller utilization of country's productive resources. Such relationship between inflation and unemployment in the economy (in the short run²⁸) is called Phillips curve (Phillips, 1958). On the basis of this relationship, monetary authority follows the path usually described as 'leaning against the wind'. This relationship also contains lesson for policy makers that any attempt to continue for pro-GDP growth economic policies, the cost would be higher (future) inflation²⁹ and in case they unnecessarily prolong the stabilisation policies, the cost would be higher (future) unemployment.

Despite measurement errors in unemployment rate statistics (for the case of Pakistan, being a developing country) we can see the negative relation between inflation and unemployment rate for the period of 1973-2012 in Figure 6³⁰. Such relationship is more pronounced if we consider the post financial sector reform period and plot the trend behaviour of inflation and unemployment rates against time (see Figure 7). Despite the fact that unemployment rate is more related to welfare of the household, better understood by the public, and is rarely revised, I would suggest to look into some other measures of resource utilization like level of output because (in my opinion) output is better measured in developing countries compared to unemployment rate – notwithstanding a significant component of undocumented economic activities³¹. Low levels of unemployment (compared to natural levels) mean

²⁸ We know, more inflation cannot produce more output in the long run.

²⁹ And risks to financial stability as well (for details see Agur and Demertzis, 2013). Prolonged accommodative monetary policies incentivize risk taking by financial intermediaries. A central bank with financial stability objectives has to adopt more aggressive, but short lived, monetary policy stance.

³⁰ The shape of Phillips Curve for Pakistan does not change when we exclude the outlier from both extremes. Furthermore, we do not find any difference in the estimated slope coefficient (which is negative and statistically significant) of the trend line passing through the scatter diagram of inflation and unemployment rate in Pakistan, if we use lead inflation instead of contemporaneous inflation.

³¹ See Arby, M. Farooq, Jahanzeb Malik and Nadim Hanif (2012) "The Size of Informal Economy in Pakistan," Finance Research, Vol. 1, No. 2, pp 11-18

the country is producing lower than potential of the economy and may be facing recession(s). The difference between level of output produced by the country and the potential³² of the economy is called output gap. Following the inflation-unemployment relationship describes above we can say that a positive output gaps indicates that inflation is building up in the economy and a negative output gap suggests deceleration in price changes (or even a fall in prices) in the country.

It shows that the state of the output gap has a role in explaining inflation in Pakistan and suggests that recent fall in inflation is the result of (lagged) effect of negative output gap phase country entered in 2010. Many factors affect the inflation in Pakistan other than the output gap.

In what follows we discuss some other empirical observations in the context of monetary policy experience of Pakistan. Monetary policy can prevent money itself from being a major source of economic disturbance, it can provide stable background for economy, and it cannot necessarily contribute to offsetting major disturbances in the economic system arising from other sources³³ [Friedman (1968)]. As we mentioned in the beginning of this section that inflation in Pakistan has been a monetary phenomenon. Average broad money growth, inflation and the real output growth for 1951-2010 shows that inflation in Pakistan has been roughly equal to rate of broad money growth minus the real output growth. Riazuddin (2008) has explored how money growth has interacted historically with inflation in Pakistan in a bit more detail and found that inflation³⁴ is primarily a monetary phenomenon. Considering below (above) median M2 growth and inflation as low (high), he found that three-fourths times high broad money growth was followed by high inflation next year and not surprisingly low broad money growth was followed by low inflation next year with similar odds during 1958-2007.

As far back in the history of Pakistan as we can find the information on the targets of money supply growth and those of inflation we observe that any deviation from the target money growth (money surprise) has resulted in deviation from inflation target range (inflation surprise) next year (see figure 3). This also vindicates the proposition that inflation is a monetary phenomenon in Pakistan.

There is some empirical evidence on inflation growth nexus in Pakistan (Like Mubarik (2005), and Hussain (2005)) most of which relates to 'partial observation' from the history of Pakistan expect Riazuddin (2008) which covers 50 years of Pakistan but found results in contrast to the other studies³⁵. A direct inflation-growth nexus suggested Khan and Schimmelpfennig (2005) a threshold in the range of 4-

³² Estimated by a trend. Whilst other methods exist (as discussed in Choudhary, 2013) to smooth a macroeconomic time series, Hodrick-Prescott (1997) filter is a popular choice and the same has been followed in this study.

³³ Friedman (1968) believed that 'the potentiality of monetary policy in offsetting other forces making for instability is far more limited than is commonly believed'.

³⁴ He also found that food inflation too is a monetary phenomenon in Pakistan.

³⁵ Riazuddin (2008) found that inflation is primarily a monetary phenomenon; however, quantity theory of money does not hold in Pakistan below money supply growth rates of 9 percent. He suggests pursuance of monetary policy (by the central bank) independent of the growth policies of the government.

9 percent for Pakistan, which Hussain found to be much lower at 4-6 percent. Mubarik (2005), however, using data for 1973-2000 found that inflation in excess of 9 percent harms growth.

Exploring if there is any trade off between inflation and growth in Pakistan Riazuddin (2008) found that there seems to be no trade off between inflation and growth and casts doubt on existence of any 'threshold' level of inflation for Pakistan. Considering below (above) median real economic growth and inflation as low (high), he is right to the extent he has made the analysis that there are (almost) similar chances of having high economic growth when the inflation is low or high. However, when one more level of 'very high' inflation (being inflation higher than the 3rd quartile) is defined then it can be easily picked that during the last six decades there had been relatively less chances of observing relatively higher real economic growth when inflation was greater than 'very high' level as compared to when inflation was less than the 'very high' level. Thus, we can say that periods with inflation beyond a threshold level of 'very high' have been associated with relatively low economic growth spells in Pakistan.

Monetary policy has provided stable background for the economy. We can see that standard deviation for inflation and broad money growth in Pakistan are equal irrespective of whether we analyze for whole period of 1951-2010 or for 20 years pre and post financial periods³⁶. More importantly SBP has been able to stabilize the economy as a result of financial sector reforms and restructuring initiated in late 1980s as is evident from lower standard deviations of broad money growth and inflation during post reform 20 years as compared to similar period before reforms.

While highlighting monetary policy's role in offsetting the major disturbances in the economy, arising from other sources (say relatively higher budget deficits), by a slower rate of monetary growth (and thus temporarily higher interest rates) than would otherwise be desirable Friedman (1968) warned that potentiality of monetary policy in this context is far more limited than commonly believed. We can see that in the case of Pakistan in the early period in order to fulfill the developmental needs of the country, SBP followed expansionary stance and bulk of the monetary expansion was on account of the credit to government sector that too at subsidized rate. During the period of financial repression it constituted more than 50% of overall monetary assets of the banking system. However, after financial restructuring government has been getting it on market interest rate and it declined significantly (See Table 1). But still it is too high. Its composition has strong implications as if higher proportion is borrowed from SBP, as has been the practice during recent years; it is highly inflationary. In figure 4 we have shown the co-movement of inflation in Pakistan with the (lagged) share of government borrowing from SBP to reserve money (M0).

Pakistan's departure from monetary aggregates targeting towards current eclectic approach and transition to some sort of inflation targeting does not necessarily mean that monetary aggregates have no use. Monetary aggregates still plays critical informational role and are indicators of monetary

³⁶ This is simple statistical analysis. We can use rigorous econometric analysis based on vector autoregression type analysis but we will get the more or less similarly results as has been documented by Khan (2008) that nominal disturbances have been dominant factor in explaining variations in inflation in Pakistan.

conductions in the country. NDA and NFA are reflectors of internal and external positions of the economy. A separate analysis becomes even more important when expansion in one and contraction in other might result in slow or even no growth in broad money. It can be helpful if we look at the ratio of NDA to NFA (as in figure 2) which in case of Pakistan co-moves with inflation (SBP, 2010). We discussed above that real income growth plays an important role in dampening inflation in Pakistan but being a developing countries its growth has been considered by some economists as balance of payments constrained. In times rapid expansion in NDA may be reflection of unsustainable private sector credit growth (as in early 2000s) or of excessive deficit monetization (as in late 2000s) and faster contraction in NFA may be the reflection of precarious balance of payments position (as had been in 2008 and 2009 in Pakistan) which have negative implications for growth and thus for inflation.

Currently, Pakistan has passed through one of very difficult times in its history as after having illustrated single digit inflation for ten years in a row³⁷ first time after early 1970s oil price shock, 2007-08 oil price shock disrupted our path so much so that we faced 'five consecutive years of double digit inflation' for the first time³⁸. We are on moderate but feared to be fragile recovery path. Global commodity prices shock (of late 2010s) hit Pakistan economy hard because we are heavily dependent on oil import and intensity of surge in international oil prices was severe and consumption remained robust (due to habit persistence) and government policy of not immediately passing the impact of international oil prices to domestic prices. As a result not only the current account deficit rose (as percent of GDP), the budget deficit also jumped (in terms of the GDP). Foreign exchange reserves depleted and exchange rate depreciated. By October 2008, headline inflation went up to 25%. Food inflation³⁹ was even much higher. After 5 years of double digit inflation, now inflation has fallen to single digit levels and is expected to stay below 9 percent in near future. With the start of global financial crisis cum great economic recession our exports and imports declined but strong workers' remittances helped a lot. Our bank system showed resilience albeit under stains of non-performing loans emanating from slowdown in economic activities. Notwithstanding deterioration in most of the macroeconomic indicators we continued to finance all our imports and other debt obligations. However, we had to enter a SBA with IMF in November 2008 and adopted demand restraining measures and started pro reform measures.

³⁷ With respectable economic growth performance of 5% per annum (during 1998-2007): the period of 'great moderation' in the context of Pakistan economic history.

³⁸ Once started inflation becomes difficult to subdue in Pakistan. There is evidence and agreement that inflation is persistent in Pakistan (See figure 5). In the figure we have plotted the autocorrelation function of headline inflation in Pakistan for July 1958 to June 2010. It remains significantly positive up to 30th month and dies out after four years. For details on inflation persistence in Pakistan, see Hanif et al (2012). We still have to explore what are the reasons for inflation persistence in Pakistan from amongst the various candidates like a) administered prices, b) big firms – being having capacity to bear part of the increase in cost for some time and then passing on the impact when feeling the delayed part as burden, c) inertia that wage and price contracts impart to inflation, and d) oil price shocks. What we know for the case of Pakistan is: aggressive the monetary policy (i.e. positive real policy rate; or lower broad money growth rate than nominal income growth rate) lower will be the probability of inflation persistence at higher levels.

³⁹ In Table 2 we have analysed the food inflation in different periods in Pakistan on the basis of differences in relative prices in different groups in inflation basket of country. We found that it is only during 1961-70 and during 2002-10 when food group turned to be on top if we compare the changes in relative prices as compare to general trend in inflation. For details on food inflation in Pakistan, see Hanif (2012).

We had to tighten monetary policy stance and we raised discount rate from 9.5% in July 2007 to 15% in March 2009. Implementation of stabilization program (though partially) helped Pakistan as fiscal and current account deficits came down to 5.2% and 5.3% of GDP respectively in FY09 and headline inflation declined to 13.1% by June 2009. It helped SBP to reverse the direction of the monetary policy stance and bring policy rate down at 12.5% but it proved short lived and SBP had to start raising it again when inflation again started surging in 2010 and we observed fiscal slippages as budget deficit to GDP ratio has again increased to 6.3% in FY10. With the shift of government borrowing from SBP to commercial banks and reduction in inflation to single digit levels⁴⁰, SBP has brought down the policy rate to single digit.

4 Conclusion

Monetary policy influences the level of aggregate demand in a country in order to help government achieve its objectives pertaining to inflation and real economic growth. The making and conduct of monetary policy in Pakistan is the responsibility of State Bank of Pakistan being central bank of the country. SBP uses its policy rate and changes in some liquidity ratios to affect the cost/availability of money and credit in the economy.

State Bank of Pakistan Act 1956 provides legal setup for monetary policy framework in Pakistan. It entrusts upon SBP to regulate the monetary and credit system of Pakistan and to foster its growth to secure monetary stability and fuller utilization of country's productive resources. It provides necessary powers for operational set up for monetary policy in addition to arrangements for relationship between the central bank and the ministry of finance.

Historically, overall objectives of monetary policy have remained the same while policy contents have varied considerably over the years. Concerted efforts have been made during the last few years to make monetary policy transparent and credible by taking committee based decisions and issuing monetary policy statements after being discretionary over most of the period. Since its establishment SBP followed monetarism in a bid to achieve monetary stability. It had been targeting broad money on the basis of an estimated money demand function taking into account annual economic growth and inflation targets of the government. For achieving government announced level of inflation, broad money had been used as intermediate target and reserve money had been used as an operational target. After structural changes in the economy as well as in the financial sector weakened the relation between inflation and broad money growth, SBP moved from monetary aggregate targeting to an eclectic approach and let exchange rate market driven. The operational target has been transformed from reserve money to the overnight money market repo rate effective from January 2009. Monetary policy stance is signaled through change(s) in discount rate; and/or cash reserve requirements; and/or statutory liquid ratio. Monetary conditions indicators are used to obtain information on how and when

⁴⁰ For detail on why inflation has come down during the past couple of years, see Box 3.1 in SBP second quarterly report for FY13.

SBP may need to adjust the policy stance in order to get closer to achieve the ultimate goal of price stability without being prejudice to economic growth.

Based on past research studies on determinants of inflation we can say that budget deficit, money supply, prices of imported goods, wheat procurement price, and expected inflation play an important role in generating inflation while real income growth and openness play a significant role in dampening it. It shows monetary policy can help control inflation to the extent role played by money supply and by stabilizing exchange rate. Any monetary growth surprise will result in next year's inflation surprise. Fiscal deficit and, and its financing mix, has direct implications for monetary management by the central bank and inflation in the country. It falls in the domain of government to keep fiscal deficit in check and use least inflationary mix of financing her deficit and to take timely and appropriate measures whenever there are supply shocks.

Based upon last six decades' averages, inflation in Pakistan has been roughly equal to rate of broad money growth minus the real output growth which simply means inflation in Pakistan has been a monetary phenomenon. Monetary policy has provided stable background for the economy. We can see that standard deviations for inflation and broad money growth in Pakistan are equal during period of 1951-2010. More importantly SBP has been able to stabilize the economy as a result of financial sector reforms and restructuring initiated in end 1980s as is evident from lower standard deviations of broad money growth and inflation during post reform 20 years compared to pre-reforms.

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Appendix 1

Table 1: Summary of Selected Macro Indicators for Pakistan Economy

(Percent)

Period	Broad Money growth (Average)	Inflation (Average)	Real GDP growth (Average)	Stock of Government Borrowing as % of M2 (Average)	Government Borrowing (Flow) as % of M0 (Average)
1950s	8.7	2.7	3.1		
1960s	11.8	3.2	6.8		
1970s	16.6	12.6	4.8		
1980s	14.0	7.2	6.1		
1990s	15.3	9.7	4.4		79.1
2000s	15.3	8.5	4.8		53.0
1971-1990	15.3 (6.9)	9.9 (6.7)	5.5 (2.0)	51.9	
1991-2010	15.3 (4.5)	9.1 (4.2)	4.6 (2.1)	42.0	62.7
1951-2010	13.6 (5.9)	7.3 (5.8)	5.0 (2.5)		

Standard deviation in the parenthesis

Table 2: Group-wise Changes in Relative Prices

Group in CPI Basket during different periods	Weight in CPI basket (Current)	2002-2010	1992-2001	1982-1991	1971-1981	1961-1970
Food Beverages & Tobacco	0.403	<u>1.58</u>	0.29	0.66	0.31	<u>0.87</u>
Apparel, Textile & Footwear	0.061	-3.37	-0.77	1.13	<u>0.80</u>	-1.25
Housing and Household Operations					-1.17	-1.02
House Rent	0.234	-0.49	-0.48	-2.18		
Fuel & Lighting	0.073	0.74	<u>1.06</u>	-0.50		
Household Furniture & Equipment	0.033	-2.87	-1.10	-0.63		
Transport & Communication	0.073	-0.51	0.26	<u>1.62</u>		
Recreation & Entertainment	0.008	-6.20	-1.10	-1.07		
Education	0.035	-1.76				
Cleaning, Laundry & Personal Appearance	0.059	-2.07	-0.10	-0.02		
Medicare	0.021	-3.76	0.27			
Miscellaneous				-1.62	0.01	-0.90

Note: Highest change in relative price (as compared to other groups) is bold and underlined for each regime shown in the columns

Table 3: Liquidity Ratios in Pakistan

Statutory Liquidity Requirements (SLR)		Cash Reserve Requirements (CRR)	
w.e.f.	Rate (as % of TDL)	w.e.f.	Rate (as % of TDL)
1-Jul-48	20	5-Sep-98	5
1-Sep-67	25	19-May-99	3.5
7-Jul-72	30	12-Jul-99	5
16-Aug-73	35	7-Oct-00	7
13-Aug-92	40	16-Dec-00	5
19-Dec-92	45*	30-Dec-00	5
27-Oct-93	35*	5-Jan-01	5
28-May-97	20	22-Jul-06	7 % of DL & 3 % of TL [#]
02-Jan-98	18	19-Jan-07	7 % of DL & 3 % of TL [#]
22-Jun-98	15	4-Aug-07	7 % of DL & 0% of TL ^{**}
19-May-99	13	2-Feb-08	8 % of DL & 0% of TL ^{**}
12-Jul-99	15	24-May-08	9 % of DL & 0% of TL ^{**}
22-Jul-06	18	11-Oct-08	8 % of DL & 0% of TL ^{**}
24-May-08	19	18-Oct-08	6 % of DL & 0% of TL ^{**}
18-Oct-08	19 % of DL & 0% of TL ^{**}	01-Nov-08	5 % of DL & 0% of TL ^{**}

*: Including CRR; #: Term deposits of less than 6 month maturities are defined as DL
 **: Demand liabilities include all deposits of less than one year tenure, while time liabilities include time deposit with tenor 1-year and above only.

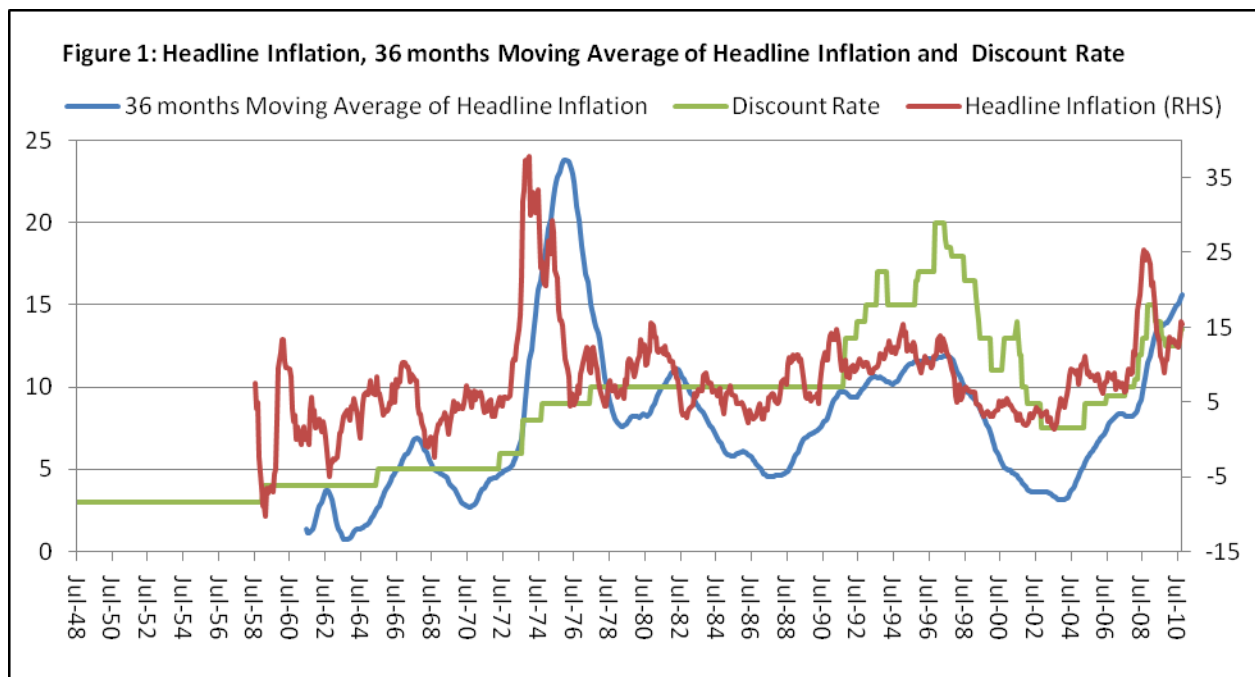


Figure 2: NDA to NFA Ratio and YoY inflation in Pakistan

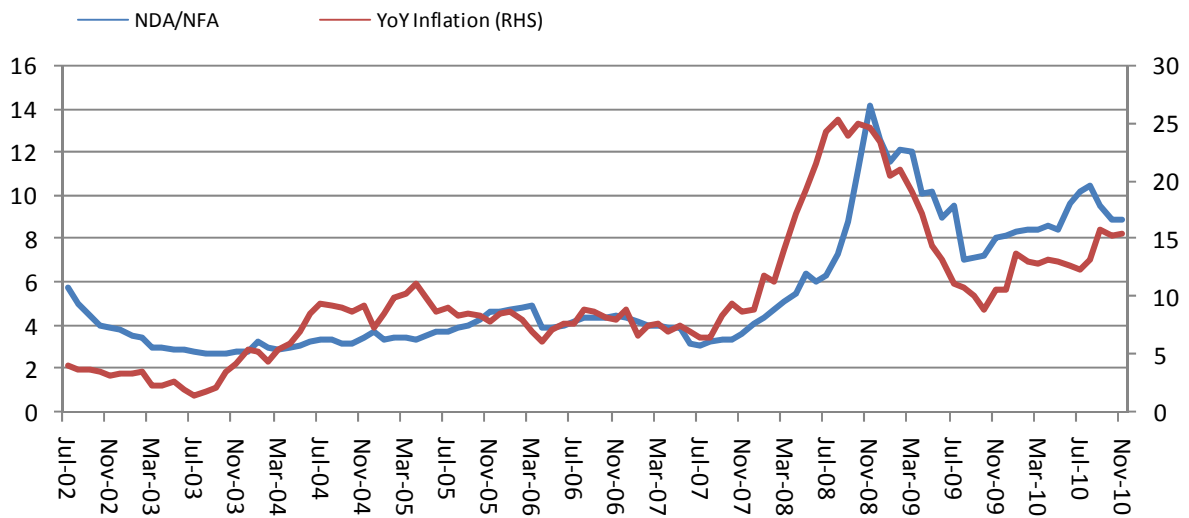


Figure 3: Inflation and Money Surprise (%)

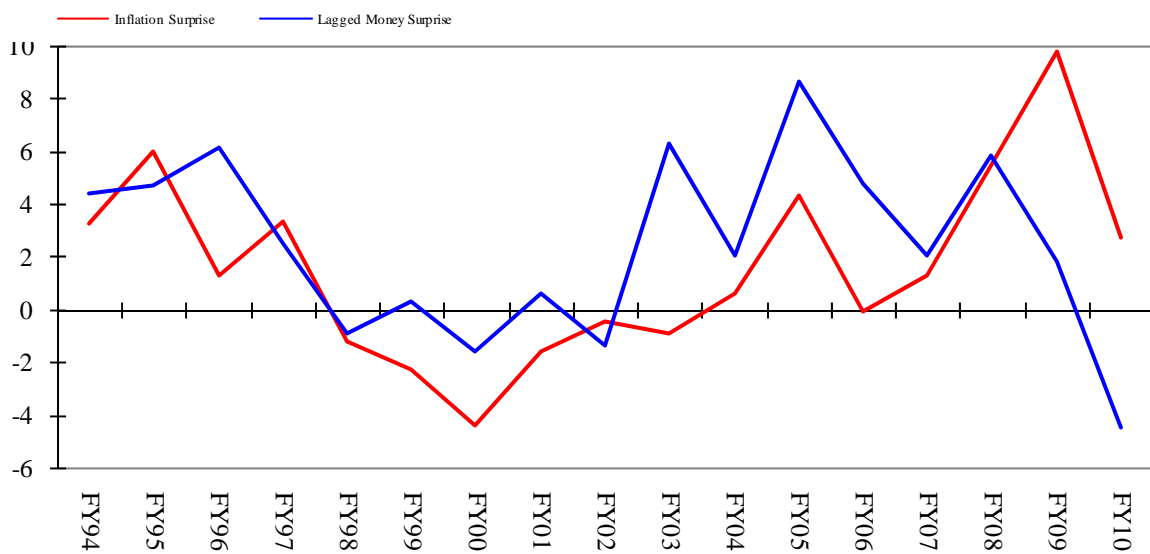


Figure 4:(Lagged) Govt Borrowing from SBP as % of Mo vs Inflation (%)

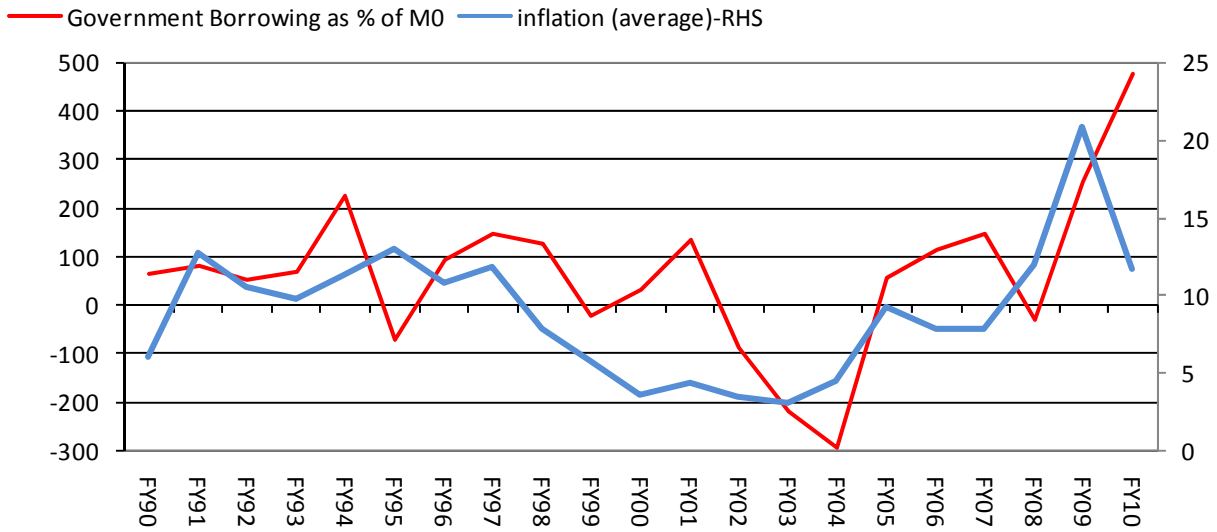


Figure 5: Autocorrelation Function of YoY Inflation During July 1958 to June 2010

