Is Inflation Targeting the Best Policy Choice for Emerging Economies? A Survey of Emerging Market Experiences and Lessons for Pakistan

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Abstract

The recent increase in financial market volatility and the increased surge within developing world to become part of the global world has posed several challenges for policy makers in the emerging markets to decide on a policy regime, monetary or exchange rate, that suits to their needs and could also provide stability to the financial system. In view of the macroeconomic characteristics of these emerging economies, the choice of an appropriate policy becomes important to achieve certain targets such as sizeable domestic and foreign investment, reduced reliance on external borrowings, fiscal discipline, etc. These would require both price and exchange rate stability and country's ability to deal with external shocks. Pakistan is no different and until recently had a history of macroeconomic imbalances with extremely high foreign (as well as domestic) debt, high budget and current account deficits, extremely low international reserves, high inflation, high nominal interest rates and low economic growth. However, policies implemented during the last few years have changed this scenario and Pakistan has been able to make remarkable improvement in all areas of macroeconomic performance. This is probably the best time to make a decision on the choice of a policy regime such as inflation or exchange rate stability to pursue and achieve long-term and sustainable economic growth. This is the main objective of this paper. This paper serves as a survey of the experiences of emerging countries in adoption to inflation targeting. In view of the recent successful experience of some emerging economies, the paper focuses on inflation targeting as a choice of policy regime for Pakistan. The discussion and analysis in this paper suggests that it is probably a good time for policy makers in Pakistan to consider inflation targeting as a monetary policy strategy. Given the recent trend of low inflation, a decision to use inflation targeting as the main policy variable will help to boost the economy and may also provide exchange rate stability.

JEL Classification: E5, E31, E42, E52, F3

Key Words: Emerging Markets, Inflation Targeting, Price Stability, Exchange Rate Stability, Pakistan economy

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1. Introduction

The conventional macroeconomics debate on the effectiveness (or ineffectiveness) of monetary policy along with empirical evidence from many countries lead policy makers (as well as economists) to come to a general consensus suggesting that monetary policy can only exert some real effects on the economy in the short run, however, the same is ineffective to change the level of output in the long-run. Not only that monetary policy does not work in the long-run, it also has negative effect on central bank's credibility and a loss of public confidence. These empirical findings based on theoretical models lead many central banks to look for a credible nominal anchor. Hence, many emerging economies as well as some industrialized countries have recently switched to Inflation Targeting as their monetary policy regime.

Inflation targeting has some benefits including increased accountability of the central bank (or the monetary authority) and transparency of their operating procedures. The main objective of inflation targeting is to achieve a low and stable inflation in an economy. Theoretically, the role of monetary policy is influenced by some important propositions (Masson et. al., 1997); (a) money supply is neutral in the medium to long run. This enables monetary expansion to have lasting effect on price levels leaving real variables such as output and employment unchanged, (b) Inflation does carry some costs, either efficiency costs (resource allocation) or in terms of long-run output growth, or both, (c) money is not neutral in the short-run. This means that money has some

important effects on real variables such as output and unemployment, (d) the timing through which monetary policy affects inflation has lag of uncertain duration with variable strength and finally (e) the argument of dynamic inconsistency or that the monetary policy has inflationary bias.

These propositions are subject to discussion and are also dependent on a specific economic environment, the information dissemination process of polices and the expectations formation process. The empirical evidence does, however, support the above propositions. Given this, one can see the role of inflation targeting as an important goal of monetary policy. New Zealand was the first country to adopt an inflation targeting regime in 1990. Since then, many countries have joined the club including both industrialized countries (such as Australia, Sweden, Switzerland, and the United Kingdom) and emerging economies (such as Brazil, Chile, Columbia, Czech Republic, Iceland, Israel, Mexico, Peru, the Philippines, Poland and South Africa). Some discussion has also taken place in the Federal Reserve (the United States) and the Bank of Japan to switch to an inflation targeting regime. The European Central Bank (ECB) already has a two-pillar system in place with inflation being one of the policy targets (along with monetary targets).

One especially important pre-condition for the success of any monetary policy regime based upon inflation targeting is central bank independence. The State Bank of Pakistan (SBP) has enjoyed a reasonable degree of autonomy in the recent past. Pakistan has been able to achieve remarkable growth performance since 2003. This is probably the best time to make a decision on the choice of a policy regime to pursue to achieve long-term and sustainable economic growth. The successful experience of some

countries that have already adopted inflation targeting helps draw important lessons for Pakistan. This paper will look closely into the characteristics of Pakistan's economy and will highlight the main issues which need to be addressed as part of the economic policy planning package. The paper is organized in the following manner. The introduction is followed by some discussion on the mechanics of inflation targeting. In Section 3, we discuss the experience of some emerging economies. Macroeconomic performance of Pakistan is briefly discussed in Section 4. The prospects of adopting an inflation targeting regime by the SBP are discussed in Section 5. In Section 6, we present some (preliminary) empirical estimates to devise a policy strategy. Finally, some conclusions are drawn in Section 6.

2. Inflation targeting: Conceptual, measurement and Implementation Issues

Inflation Targeting (IT) is considered to be the best mechanism for price stability in high inflation countries. It can be defined as a monetary policy strategy with an explicit objective of achieving and maintaining price stability. This objective is achieved through an easily understandable numerical target value of inflation. This requires a country's central bank to have some flexibility in choosing monetary policy instruments most appropriate to achieve the target (inflation target). Price stability does not strictly mean a 'constant price level or zero inflation' but a stable price level that helps to achieve a target inflation with some tolerance band over a specified time horizon. Inflation targeting is a forward-looking policy regime which relies strongly on rational expectations of monetary policy transmission. The way IT is implemented in emerging

economies suggests that they have, in general, provided some discretionary power to the central banks to make some adjustment in monetary instruments.

The specific measure of inflation used in inflation targeting may be defined as core or headline inflation. By definition, 'core inflation' excludes items of volatile price movements from the CPI, thus eliminating temporary price shocks and focuses on long-term price movements. Many analysts agree that core inflation should be a good indicator of the underlying long-term inflation trend, and provide an indicator of future inflation. Accordingly, economists suggest that 'core inflation' should also be able to track the components of overall price changes which are expected to persist in the long-run (for several years). This helps policy makers to use this information for medium to long-term inflation forecasting. 'Headline inflation', however, looks at the rate of change in the consumer price index, average price of a standard basket of goods and services. In this way, headline inflation measures the changes in the cost of living based on the movements of the prices of goods and services in the basket of a representative economic agent.

Masson, et.al. (1997) suggest a couple of pre-requisites for moving toward inflation targeting as a monetary policy goal. The first pre-requisite is linked to fiscal discipline where the conduct of monetary policy should not be constrained by fiscal deficits due to an inefficient taxation system. This requires that fiscal deficits should be reduced by using revenue based measures rather than relying on the central bank for domestic borrowing. Any major reliance on domestic borrowing will create problems in achieving the goal of 'inflation targeting'. The second pre-requisite (or requirement) to adopt an inflation targeting regime is to avoid targeting the level or path of any nominal

variable (including nominal exchange rate). Leiderman and Svensson (1995), however, suggest that a nominal exchange rate target and inflation target can co-exist, theoretically, as long as the later has preference over the former. Orlowski (2000) suggests that emerging economies also need information about the monetary policy transmission mechanism, its duration and policy lags. Any information that may help to forecast inflation, such as the status of leading indicators is important and helps to minimize the deviation from the target.

Once these pre-conditions are satisfied, a country can pursue an IT regime. However, the experience of some countries suggests certain important elements (as well as benefits) of an IT regime. They include (i) a commitment by the central bank indicating price stability as the principal goal of monetary policy, (ii) an explicit and a priori quantitative target for the rate of inflation (with or without a tolerance band) to be achieved over a specified period, (iii) the commitment that inflation targeting takes precedence over all other objectives, (iv) better coordination between the monetary polci and other economic policies provided that the target is consistent with other objectives, (v) a methodology to forecast inflation and a forward looking operating procedure where inflation forecasts are used as the main intermediate targets, (vi) an information dissemination mechanism which helps to provide accurate and timely information on setting of monetary policy instruments, (vii) increased transparency of the monetary policy strategy, (viii) increased accountability of the central bank to achieve the inflation target.

A target can be specified as a single point, a range or a ceiling. A single point provides a better focus for inflation expectations but is most difficult to achieve. A target

specified in terms of a range requires a tolerance band. The focus of a 'ceiling' is only the upper band and does not consider what the lower band should be. In this way, a single point target is consistent with a policy of 'rule' while a range or a ceiling gives 'discretionary' policy flexibility to the central banks.

The central bank could use either 'strict' or 'flexible' inflation targeting. Under 'strict IT regime', the central bank is only concerned with achieving the inflation target. Under 'flexible IT', the central bank is also concerned with the stability of output and/or the real exchange rate. If a deviation from target appears, strict IT requires central banks to bring inflation back to its target level as quickly as possible involving considerable movements in instruments. These instrument movements may lead to output and real exchange rate movements. However, flexible IT would lead to a gradual approach to bring inflation back to its target minimizing the movements in instruments and hence providing more stability to output and real exchange rates. Therefore, a flexible IT would involve a tolerance band and relatively long time horizon giving central banks some discretionary power. The experience of emerging economies suggest that they have, in general, pursued a flexible IT regime giving discretionary power to the central banks to make some adjustment in monetary instruments.[1]

3. Experience of Inflation Targeting in Some Emerging Economies:

Since the early 1990s, many emerging economies switched to inflation targeting as their monetary policy regime. These countries had different economic environments and hence decided to follow a policy suitable to a specific economic environment. We can

[1] See Svensson (1997) for more details on implementation issues.

split these countries into three groups.[2] First, countries with relatively strong financial market fundamentals, a stable macroeconomic environment and independent central bank moved to inflation targeting with flexible exchange rates with specific inflation targets to be achieved over a specified period. The second group of countries did not have the same environment and switched to inflation targeting with tolerance bands. The third group of countries had difficulty in maintaining a specific target due to a less credible central bank and adopted a policy of 'inflation targeting lite'. In a sense, ITL is a transitional regime until the country is ready to move to a full-fledged IT regime. Central bank credibility, which is an important argument of the ITL, may severely be affected if a country faces fiscal imbalances and exchange rate pressures under a fixed exchange rate regime. In such a case, ITL provides breathing space to maintain fiscal discipline and move to a flexible (managed or free) exchange rate regime before inflation targeting policies are implemented.

New Zealand was the first country to adopt an inflation targeting regime. Since then many emerging economies in Asia, Latin America and Europe have switched to inflation targeting as their monetary policy objective. For instance, the Latin American region experienced the highest inflation in the world in the 1980s. At regional level, inflation averaged 145 percent annually. As such price stability became the most important argument of the monetary policy (Schmidt-Hebbel and Werner; _____). Chile (1990), Peru (1994) and Mexico (1999) used a gradual approach to adopt an inflation targeting regime while Brazil (1999) used a big-bang approach to do the same. Among these countries, Chile followed a 'gradual convergence towards full-fledged

[2] Some of the Latin American countries moved to inflation targeting along with dollarization, thus completely giving up their monetary policy and national currencies. This could be considered as the fourth group. There is also another small group that may adopt inflation targeting along with currency boards.

inflation targeting (1990-99) when the Central Bank of Chile adopted a legal, operation and goal independence. The Bank of Chile also pursued an exchange rate target from 1984-1999. The Central Bank of Chile used the period 1990-99 to provide price stability and announced inflation targets (or a range) on an annual basis before it decided to move to full-fledged inflation targeting and set an indefinite target range of 2-4 percent in 2001.[3] Mexico used a somewhat similar approach (1995-2001) but started with a monetary growth target in 1995 and at the same time used this monetary growth target to bring down inflation from 52 percent in 1995 to 16 percent in 1997. Eventually, the Central Bank of Mexico moved towards a gradual transition to full-fledged inflation targeting in 1998. Contrary to the example of Chile and Mexico, the Central bank of Brazil used a Big-bang approach (1999-2001) to move to a full-fledged inflation targeting regime in July 1999, with a 2 percent tolerance band.

Table 1 provides a summary of ITers within emerging countries. The evidence suggests that all three above stated countries managed to bring inflation down. The numbers presented in Table 1 suggest that Brazil and Chile managed to bring inflation very close to the target level. However, Brazil and Chile were not able to achieve their stationary inflation levels while Chile took 36 quarters to achieve a stationary level. This is extremely slow convergence in comparison to some other developed countries which, on average, achieved a stationary inflation level in about six quarters.[4] The empirical evidence also suggests that these countries improved in terms of sacrifice ratio after the adoption of inflation targeting. Finally, Schmidt-Hebbel and Werner (_____) show that this group of Latin American countries showed significant improvement in terms of a fall

[3] de Gredorio, Tokman and Valdes (2005) discuss in detail the Chilean experience of inflation targeting with flexible exchange rate regime.
[4] See Schmidt_Hebbel and Werner (_____ _) for details.

in the volatility of industrial output. Mishkin (2004) suggests the adoption to an IT regime in Brazil seemed to work well with results indicating only a small pass-through from the large depreciation of the real and an improvement in GDP growth from negative to slightly positive. However, Mishkin attributes part of this success to the government's fiscal policy. The measures of fiscal discipline resulted in a primary budget surplus of 4.3 percent of GDP in 2003.

INSERT TABLE 1 HERE

Among the Central European transitional economies, Czech Republic and Poland are the only two countries who have adopted an IT regime. The Czech Republic adopted an IT regime in January 1998 after abandoning the currency peg in May 1997. The Czech central bank adopted a strict version of IT with a strong commitment to price stability. The Czech experience shows that its central bank has developed a comprehensive system of monitoring the actual developments in various inflation categories and a communication system which disseminates this information to the public. The Polish IT regime was introduced at time when Poland was experiencing relatively high inflation. The Polish central bank decided to target CPI inflation after moving to a fully floating exchange rate regime. Unlike the Czech central bank, the information published by the Polish central bank is not as comprehensive and the inflation forecasting methodology is a bit ambiguous (Orlowski; 2000).

Inflation Targeting and Exchange rate

Exchange rate movements may have important impact on inflation as these changes are important in the determination of monetary policy. These changes in exchange rate are even more important for highly indebted countries if external debt constitute a significant portion of total debt. Substantial currency depreciation could lead to a financial crisis. Under these circumstances, monetary policy may focus too much on currency stability rather than price stability. As such, a tight monetary policy could take place at times when inflationary expectations and forecasts do not suggest an inflationary pressure. This could lead to a move away from inflation targeting, even if IT is the main policy objective. However, Adopting an IT regime does not imply that a country should pay no or little attention to exchange rate developments. Even in cases where exchange rate movements cannot be ignored, inflation targeting could work well as long as IT takes precedence over the exchange rate target. Although, most countries who adopt to inflation targeting regime prefer to have a free float exchange rate regime with only moderate interventions by the central bank in the foreign exchange market.

Columbia presents an example of inflation targeting with small-scale foreign exchange intervention. Although Columbia implemented several elements of IT starting as early as 1992, the full-fledged IT regime was only implemented in 1999Q3. In this way, Columbia experimented with inflation targeting with exchange rate bands. The absence of pre-conditions and macroeconomic mismanagement lead to the deepest and longest recession in this country. Columbia experienced 22 percent peso depreciation between January 1998 and December 1999, just about the time that Columbia adopted inflation targeting. The central bank lost about 18 percent of its international reserves during the same period in an effort to defend the peso. As evident from Table 1, the

country was also going through severe recession with economic growth at -4.2 percent at the time of adoption to IT. Eventually, Columbia switched to a floating regime and a full-fledged IT regime in late 1999. As regards to exchange rate policy, the Central Bank of Columbia followed a ruled-based foreign exchange market intervention to reduce volatility in international reserves. However, due to certain internal and external factors which led to a sharp depreciation of the peso, the Central Bank of Columbia engaged in large forex intervention in 2003 and again in 2004. The current economic outlook suggests that IT policy has been successful in Columbia: inflation has declined, output has recovered and international reserves have reached a satisfactory level.[5]

der Merve (2004) suggests, while evaluating the experience of South Africa in adopting an IT regime in 2000, that this policy framework strengthened the Reserve bank of South Africa's mandate to focus on price stability and helped to improve monetary policy transparency, accountability and communication. In all, the adoption of inflation targeting seems to have had a beneficial effect on the implementation of monetary policy in South Africa.

Batini and Laxton (2005) compare the performance of emerging economies who adopted an IT regime (ITers) and the ones who did not (non-ITers) over a period of 15 years. They observed high inflation in all sample countries in the early to mid-1990s. Although inflation tended to fall in all sample countries they observed higher inflation for non-ITer countries than the ITer countries with a wedge of 3.5%. This reflects the success of IT in emerging economies.

[5] See Vargas (2005) for a detailed discussion on Columbian experience of exchange rate policy and inflation targeting.

4. Macroeconomics Performance of Pakistan: A Historical Perspective

Pakistan experienced an uneven growth pattern since independence. Table 2 summarizes the overall economic performance of the country during the last four decades. The average economic growth over 40 years is around 4 per cent. The figures released recently by the State Bank of Pakistan (SBP) reports a remarkable 8.4 per cent growth in 2004-05 with the manufacturing sector being a major contributor to this growth performance: it registered 12.5 per cent growth, which is significant.

INSERT TABLE 2 HERE

It is evident from Table 2 that the financial sector did not grow much in the four decades. The gross domestic savings to GDP ratio of around 13 per cent during 1971-80 remained at the same level in 2002 and rose to 15.5 per cent in 2002-03. Part of the slow growth in saving is attributed to a lack of supervision of the financial institutions, which led to the sprouting of a number of bogus finance companies in the 1980s. That led to a collapse of those companies, resulting in small savers losing most of their savings. With a very low-income base, there was hardly any savings left.[6]

INSERT FIGURE 1 HERE

INSERT FIGURE 2 HERE

Fiscal balances have shown a major improvement since 1991-96, when a peak budget deficit was reached of 7.7 per cent of GDP, to 3 per cent of GDP in 2004 (See Figure 3). Part of this is attributed to pressure through the IMF and the World Bank

[6] Figure 1 and Figure 2 represent movements of some macroeconomic variables.

under their adjustment programmes. The regime also gets credit for recovering money from corrupt politicians and bureaucrats.[7]

INSERT FIGURE 3 HERE

High indebtedness remained a major bottleneck for economic growth. Total external debt increased from US$15 billion in 1991 to US$26 billion by 2001. The debt servicing consumed around 21 per cent of export earnings in 2001. The total debt (both domestic and foreign) is 95.1 per cent of GDP (and about 600 per cent of total revenues) with almost 66 per cent of total revenues used for debt servicing. The country registered a record high level of external debt of R1.787 trillion (around US$30 billion) on May 2003.[8] In magnitude, total debt amounts to about US$55 billion, of which US$30.0 billion is external debt (see Table 8.2). The debt-service ratio to exports in Pakistan reached 37 per cent of budget in 1997, the highest in Asia.

The Government of Pakistan introduced some reform measures as early as 1990 to achieve economic stability. However the pace of these reforms was slow and disruptive due to internal and external shocks. The financial sector reforms were accelerated in the years post 2000. These efforts helped to restore some confidence that was completely lost due to the collapse of bogus finance companies and frequent government intervention. The State Bank of Pakistan was also restructured during the same period with more independence given to the SBP in the design and implementation

[7] The National Accountability Bureau (NAB) that was restructured in early 2000, managed to recover billions of rupees from loan defaulters.

[8] Dawn Intent Edition; 21 July 2003.

of monetary policy. These are some of the pre-conditions needed to have an inflation targeting policy. With this brief outlook of Pakistan's economy, now let us move to the main question. Would inflation targeting be suitable for Pakistan? The next Section discusses this in detail.

5. Prospects of Inflation targeting in Pakistan: What Policy?

Pakistan presents a special case to discuss IT adoption. Pakistan has made significant progress in providing autonomy to its central bank (State Bank of Pakistan; SBP), privatization of commercial banks, establishing a domestic bond market and launching Pakistan bonds in the international market and maintaining high foreign exchange reserves. The SBP has also been successful in bringing inflation down to single digits at a time when the economy has performed strongly. However, high domestic and international debt and consistently high budget deficits remain central issues in Pakistan's monetary policy. The current surge in fuel prices has further aggravated the problem. This raises an interesting question. Should the State Bank of Pakistan adopt an inflation targeting regime even if it does not meet the pre-conditions to do so? Here we look at the experience of some emerging economies.

The discussion in Section 2 suggests that there are certain pre-conditions needed before IT adoption. Parts of these pre-conditions are related to broad economic and financial structure such as (i) institutional independence, (ii) a well-developed technical structure, (iii) economic structure, and (iv) well-developed financial system.[9] Masson et.al (1997) identify three important elements that may constraint the ability of the central

[9] Amato and Gerlach (2002) also discuss similar pre-conditions.

bank to pursue an independent monetary policy in a developing economy. These include heavy reliance on seigniorage, less developed capital markets, and fragile banking system. Batini and Laxton (2005), based on a survey of 21 IT countries, found that about 20 percent of the emerging economies did not have the right infra-structure developed to meet the pre-requisites. They report, for example, that Israel and the Philippines had high public debt/GDP ratio and large fiscal deficits at the time of IT adoption. Similarly, the results of this survey indicate that most of the central banks in emerging economies had poor forecasting capabilities along with no forecasting model to make inflation forecast which is essential for the success of IT. With regard to economic structure, the same report suggests poor economic conditions prevailed in the sample economies at the time of IT adoption. Specifically, the CPI included a significant share of administered prices. The sample countries also scored poorly in banking and financial systems. The combination of these poor economic and institutional conditions with the success of IT in the sample countries suggests that these pre-conditions may be important but not necessary to adopt an IT regime.[10]

Some statistics presented in Table 2 suggest that Pakistan's economy is in a much better shape that some of the Latin American or Central European countries at the time of adoption of an IT regime. Pakistan has enjoyed an increasing economic growth pattern during the last three to four years. Inflation has been reduced to single digits and budget deficit to GDP ratio is reduced to a target level of 3 %. Foreign reserves are sufficient to provide stability to the currency (See Figure 4). Statistics reported in Table 3 reflect the improvement in domestic bond market as bulk of the fiscal deficits since 1998, in general, are finance through domestic resources. During the same period seigniorage

[10] See Batini and Laxton (2005) for more details on emerging market experiences.

increased form 1.21 percent in 1998 to 6.7 percent in 2003 (*should this be a concern?*). It is also evident from Table 4 that the capital market has shown strength with the exception of a couple of incidents in the Karachi stock exchange (they were perhaps expected anyway). Chart 4 shows price stability and some improvement in currency value against the US dollar.

INSERT TABLE 3 HERE

INSERT TABLE 4 HERE

INSERT FIGURE 4 HERE

What Should be an Appropriate Measure of Inflation in Pakistan?

As mentioned elsewhere in this paper, inflation target needs an appropriate measure of inflation. It could measure either the entire basket of consumable goods and services (CPI), called headline inflation or an underlying rate which excludes components of headline index that are subject to short-run shocks, called core inflation. These components should not precipitate a change in the stance of monetary policy. For this we need to closely observe the price movements of the whole basket (CPI) as well as its major components. Tahir (2003) uses annual as well as monthly data to analyse the movement of price distribution in Pakistan. Her findings suggest that CPI in Pakistan is not normally distributed. Rather, CPI is subject to distortions by extreme price changes and thus 'headline' inflation may not be a robust indicator of the general trend of inflation. The paper, therefore suggest that 'core inflation' would be a better measure (or variable) for monetary policy framework. The question remains, how 'core' inflation

should be measured. Using 'exclusion approach' and 'limited influence estimator' approach, as alternatives, the paper suggest that given a very high content of food items in CPI, exclusion of food category from CPI may be subject to information loss and may not provide a good signal of the price movements. The paper, therefore, supports the 'limited influence estimator' approach to measure underlying or core inflation in Pakistan. A few points need to be highlighted here. First, Tahir (2003) used data up to 2000. Inflation in Pakistan only started showing some downward trend in 1997 and moved to a single digit in 1998. Second, the content of food items as indicated by Tahir (2003) was 49.35 percent while of fuel was 6.1 percent, leaving core inflation (non-food non-energy) as 44.55 percent. The latest statistics (for 2004-05) indicate that content of energy has doubled now (rising fuel prices) making it 12.1 percent while food content has dropped to 40.3 percent, leaving core inflation (non-food non-energy) at 47.6 percent.[11] Although, food items still occupies a significant proportion of the overall price movement, its influence shows slight decline, party due to rising fuel prices. Third, a comparison of movements of headline and core inflation in Pakistan since 1998, suggest that core inflation defined by excluding food and energy is a good indicator of overall CPI movement as both have the same trend (See Figure 5 and Figure 6). Core inflation, however, slightly underestimate the headline inflation. Fourth, to have inflation targeting as a policy objective, it is important that public (economic agents) should have a clear understanding of not only inflation and inflationary expectations but also what constitute a definition of inflation. For public's perspective, exclusion measure is easily understandable and people can form their expectations as long as complete information about certain categories of inflation is announced and made available. There, we

[11] Government of Pakistan, Pakistan Economic Survey 2004-05.

suggest that 'core inflation' could serve as a good measure for inflation targeting if SBP opts to an IT regime.

INSERT FIGURE 5 HERE

INSERT FIGURE 6 HERE

6. Inflation Targeting: Some Preliminary Empirical Estimates[12]

The only analytical question we pose here is the inflation forecasting ability. We follow Debelle and Lim (1998) to estimate a bivariate VAR of the following form.

$$\Delta X_t = \alpha(L)\Delta X_{t-1} + \beta(L)\,\Delta Y_{t-1} + e_t$$
$$\Delta Y_t = \alpha(L)\Delta Y_{t-1} + \beta(L)\,\Delta X_{t-1} + u_t$$

Where;

X = price index

Y = set of indicators

Output Gap (GDP); Rupee-US dollar exchange rate(FX); Base Money (M1); Broad Money (M2); Broad Money Plus Foreign Currency Deposits (M3); the Call Money Rate (CMR); the government Bond Yield (GBY), the share price index (SP), the government budget deficits (BD).

The results are reported in Table 5. These results indicate that output (GDP) gap and share price indices have a high degree of predictive content on inflation. Narrow money also has some predictive content. However, both narrow money and share prices cause inflation with a lag of three years. On a reverse causality, inflation causes changes in domestic credit, exchange rates and government bond yields. One has to look at these results with caution. As quarterly data on GDP is not available in Pakistan, in this preliminary analysis we estimate the model using annual data. In order to analyse the

[12] This Section only provides some preliminary estimates. This is ***research in progress*** and needs more involved theoretical considerations and econometric methodology to perform some appropriate tests.

predictive performance of an inflation forecasting model, one has to use quarterly data. We plan to use some statistical methods to form a series of quarterly GDP and replicate this analysis. This stresses the need for more frequent statistical reporting especially on important macroeconomic variables such as GDP. The results, however, highlight an important point. As it is evident from Table 4 that exchange rate is influenced by changes in CPI, a monetary policy objective of price stability would help to stabilize exchange rates as well as making central bank intervention in currency markets a less likely event. .

INSERT TABLE 5 HERE

7. Conclusions

The paper attempts to analyse a very important question: Should Pakistan adopt inflation targeting as part of its monetary policy? The paper discusses some theoretical and conceptual issues followed by a detailed illustration of the experience of some emerging economies that opted for inflation targeting. The examples of Latin American and some Central European countries illustrate the feasibility of inflation targeting in emerging economies even if these countries have complicated political and economic environments and may not satisfy all the pre-conditions suggested in the literature. These examples also suggest that inflation targeting benefited these countries in providing price as well as macroeconomic stability. However, this success requires good communication on central bank transparency and committed policies to develop strong fiscal, financial and monetary institutions.

Pakistan has made significant progress in implementing economic and institutional reforms since 2000. Some of these developments have been well recognized. Pakistan achieved the most rapid privatization of the banking system during this period. The State Bank of Pakistan has been identified as the most efficient central bank in emerging economies in 2004. Inflation has been brought to single digits and economic growth has reached a record high level. Although debt is still a major issue to be resolved, a sizeable foreign reserve has reduced the risk of default. Given these characteristics of the economy, it is probably the right time to seriously consider moving to inflation targeting. Given that Pakistan still has a high deficit to GDP ratio and high public debt, putting pressure on the central bank, a gradual approach to inflation targeting with some tolerance band would give some flexibility to the central bank to use some discretion in implementing monetary policy suitable to the prevailing (or changing) economic conditions.[13] This could be coupled with a managed float exchange rate regime similar what some other emerging economies have adopted.

This paper serves as a survey of some recent literature and discusses the possibility of adoption of inflation targeting by the SBP. This is a new subject for Pakistan's monetary policy and will need more detailed and serious deliberation before a decision is made. This initial work could be considered as a 'work in progress'. A more detailed methodological framework is needed to justify a case for inflation targeting for Pakistan. However, this paper provides some interesting insight into the issues some emerging economies had to deal with at the time of adoption of inflation targeting and have important lessons for policy makers in Pakistan.

[13] Pakistan may choose to a model of ITL before adopting to a full-fledged IT regime.

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Table 1: The Fact sheet of Inflation Targeting in Emerging Economies

	IT Adoption Date	Type of IT Measure	Initial Numerical Target	Current Inflation Target	Real GDP Growth (%) - (one year before adoption)	Fiscal Balance (% of GDP) – (in the year of adoption)	Seigniorage (1992-95)
Chile	1999Q3		2-4% annual CPI inflation, centered on 3%, 24- month horizon.	2-4%	-0.98		1.53
Peru	2002Q1	Headline Inflation	2.5% ±1% annual CPI inflation, unspecified horizon.	2.5% ±1%	0.2		
Mexico	2002Q1	Headline Inflation	3% ±1% annual CPI inflation, unspecified horizon.	3% ±1%	6.64		0.69
Brazil	1999Q2		5.5% ±2.5% (2004), 4.5% ±1% (2005) annual CPI inflation, unspecified horizon	4.5% ±2.5%	0.79	-6.89	7.46
Columbia	1999Q3	Headline Inflation	5% to 6% (2004), reduced gradually to 3%.	5% ±0.5%	-4.2		1.97
Czech Republic	1998Q1	Core Inflation	2-4% annual CPI inflation, becoming 3% ±1% in 2006, unspecified horizon.	3%±1%	-0.76	-1.63	
Poland	1999Q1	Core Inflation	2.5% ±1% annual CPI inflation, medium term horizon.	2.5% ±1%	4.84	-4.98	2.23
Hungary	2001Q3			3.5% ±1%	5.19		4.12
Israel	1997Q2	Headline Inflation	1-3% annual CPI inflation, 12-month horizon	1-3%	4.51		0.53
South Africa	2000Q1		3% to 6% annual CPIX inflation, 18-24 month horizon.	3% to 6%	2.12	-2.65	0.37

Tunisia				1-3%			
South Korea	1998Q2	Core Inflation	2.5% to 3.5% annual CPI inflation, 3-year horizon.	2.5% to 3.5%	5.01		1.12
Thailand	2000Q2	Core Inflation	0 – 3.5% quarterly CPI, unspecified horizon.	0 – 3.5%	4.43	-2.24	1.39
The Philippines	2002Q1		4% to 5% annual CPI inflation, unspecified horizon.	5-6%	3.4		1.39

Sources: Kuttner (2004); Table 2, Batini and Laxton (2005), Amato and Gerlach (2002), Masson et.al (1997) and Hu (2003).

Table 2: Basic economic and financial indicators of development in Pakistan

	1961-70	1971-80	1981-90	1991-95	1996-2000	2000	2001	2002	2003	2004	2005
National accounts											
GDP growth (%)	3.35	4.81	6.19	4.85	3.07	4.26	2.72	4.41	5.1	6.4	8.4
Per capita GDP (US$)	138.86	180.18	327.06	404.85	438.82	426.64	380.54	439.00	455	470	491
Financial indicators (%)											
Gross domestic savings/GDP	-	13.81	13.83	14.81	13.29	14.40	14.60	13.60	17.6	16.4	13.7
Fixed capital formation/GDP	15.37	15.38	16.96	18.07	15.41	14.37	14.29	12.33	16.9	17.3	16.8
Inflation (per annum)	3.51	12.42	6.98	11.20	7.30	4.37	3.15	3.29	3.1	4.6	9.3
M2/GDP	36.14	41.76	41.25	43.39	46.63	46.92	48.30	51.74	56.40		
M3/GDP	40.26	46.78	49.62	50.38	49.69	50.19	50.85	55.54			
DC/GDP)	38.44	45.49	51.18	52.70	50.63	49.57	45.47	42.34	42.69		
Fiscal balance/GDP	-5.17	-7.41	-6.74	-7.67	-6.91	-5.47	-4.71	-4.62	-3.7	-3.0	-.30
Domestic borrowing/GDP	1.84	3.42	5.29	5.60	4.89	4.56	2.51	3.35	2.32		
Foreign borrowing/GDP	3.34	3.74	1.45	2.06	2.03	0.91	2.20	1.27	1.18		
Debt/exports	403.90	606.09	509.28	-	-	550.66	-	-			
Debt/GDP	33.91	61.96	64.15	-	-	90.00	-	-			
Foreign reserves/imports	21.27	17.98	11.52	14.24	10.56	14.23	34.05	71.86			

Notes

M2 = Currency + quasi money

M3 = M2 + Other Deposits

FIR = financial intermediation ratio; claims on public + private sector (total credit), on private sector (private)

GFCF = Gross fixed capital formation

FDI=foreign direct investment (net)

FDI (In): foreign direct investment (inflow).

Source: Ariff and Khalid (2005).

Table 3: Financing of Government Deficits (Rs in Million)

Year	External	Domestic	Non-Bank	Bank	Privatization Proceeds	Seigniorage (ΔM1/GDP)
1992	-	-	-	-	-	5.46
1993	-	-	-	-	-	0.47
1994	-	-	-	-	-	3.67
1995	-	-	-	-	-	2.98
1996	-	-	-	-	-	1.75
1997	-	-	-	-	-	7.07
1998	38761	166231	118202	48029	0	1.21
1999	97070	82108	155919	-73811	0	2.15
2000	69700	136600	96700	39900	0	2.54
2001	120700	59000	92000	-33000	0	2.60
2002	83100	107350	85000	14000	8350	4.23
2003	113000	67600	119500	-55600	3700	6.70
2004	28800	135900	61000	63700	11200	-
2005	74500	124500	49500	60000	15000	-

Table 4: Capital market development in Pakistan: 1992-2002

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005*
Number of new companies listed	178	110	112	155	90	36	6	2	5	12	10	5	42	27
Funds mobilized (by new companies, billion Rs)	25.9	15.3	13.5	59.7	52.4	19.5	13.8	6.6	20.9	6.9	33.1	39.4	49.9	90.1
Total turnover of shares (billion Rs)			2.2	3.3	7.9	11.0	21.1	38.7	67.5	38.4	50.1	83.4	118.3	88.5
Market capitalization (by ordinary shares, billion Rs)	218.4	214.4	404.6	293.3	365.2	469.1	259.3	289.2	391.9	339.3	428.0	-	-	-
Market Capitalization (percentage change)	219.0	-1.8	88.7	-27.5	24.5	28.4	-44.7	11.5	35.5	-13.4	26.2	83.1	81.9	55.8

Notes:

* Figures for July 2004 to March 2005.

\- information not available.

Source: Ariff and Khalid (2005), Government of Pakistan, Economic Survey, 2004-05.

Table 5: Leading Indicators of Inflation

Causality from CPI to other variables			**Causality from other variables to CPI**		
	F-stat	Lags		F-stat	Lags
GDP	3.11	1	GDP	5.6*	1
CMR	0.06	1	CMR	0.000	1
D_credit	27.04*	1	D_credit	1.17	1
ER	10.4*	1	ER	0.38	1
G.Bond	4.85**	1	G.Bond	0.57	1
M1	1.51	3	M1	4.38**	3
M2	0.76	1	M2	0.09	1
M4	0.004	1	M4	0.10	1
SHPR	2.38	3	SHPR	18.2*	3

Note: * and ** denotes rejection of Granger non-causality at 1% and 5% level of significance respectively.

Figure 1

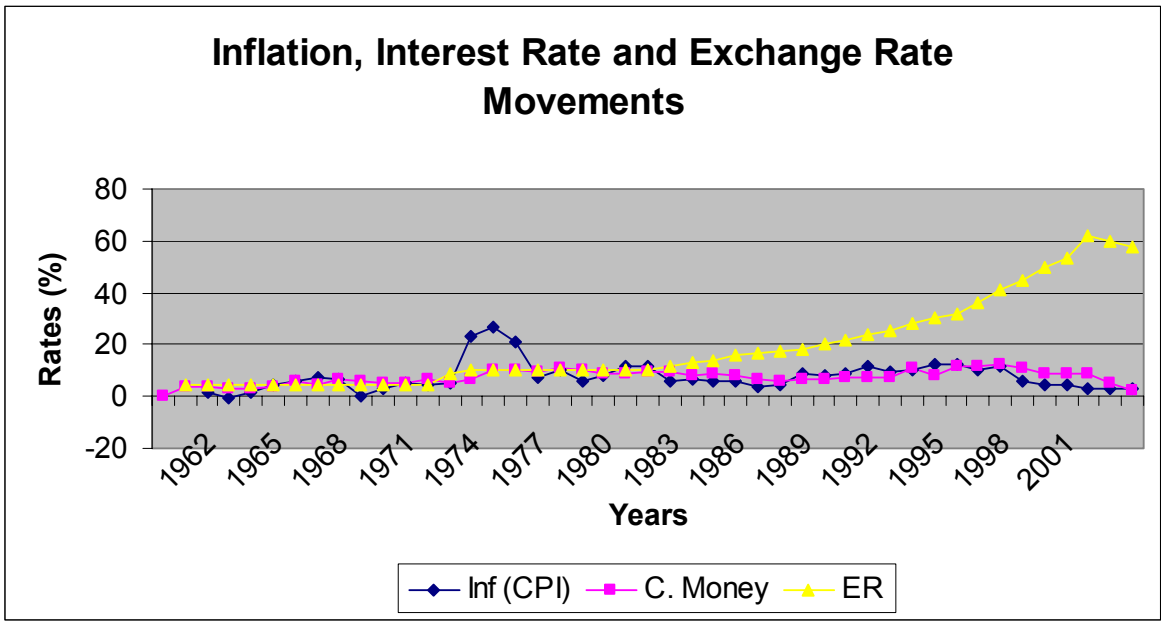

Figure 2

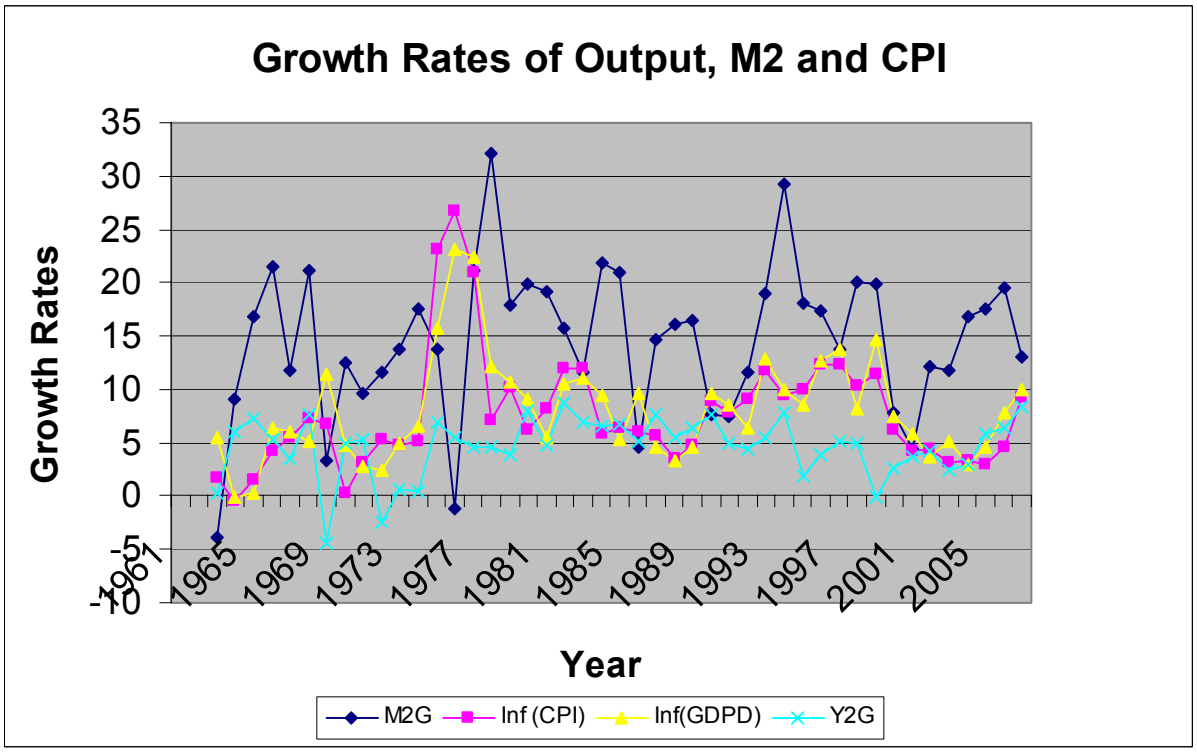

Figure 3

Figure 4

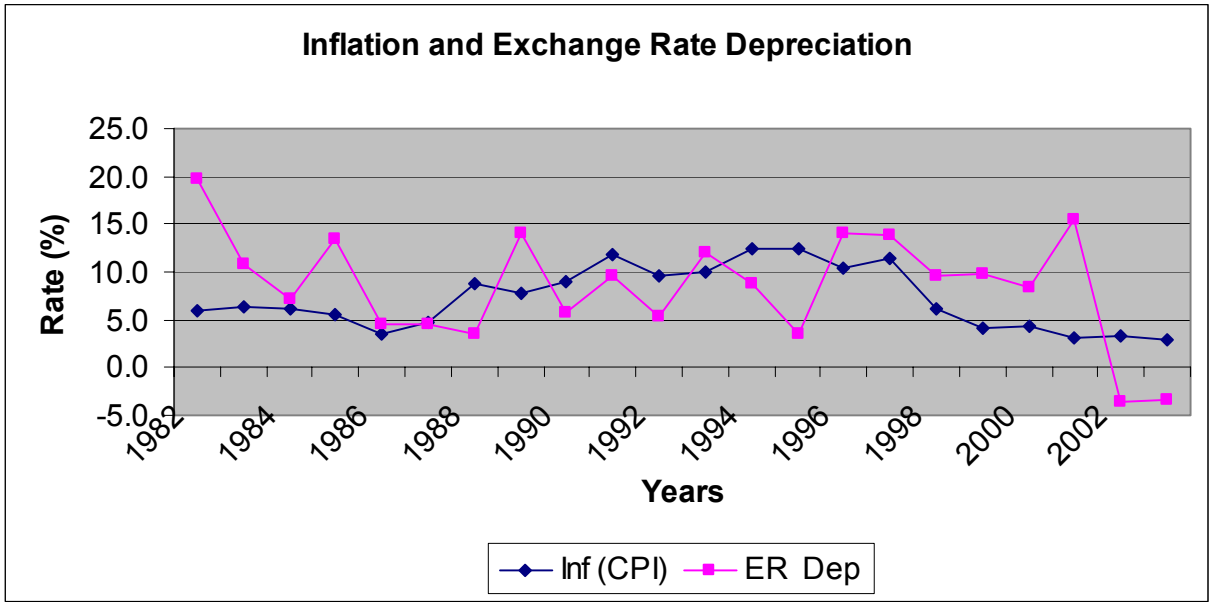

Figure 5

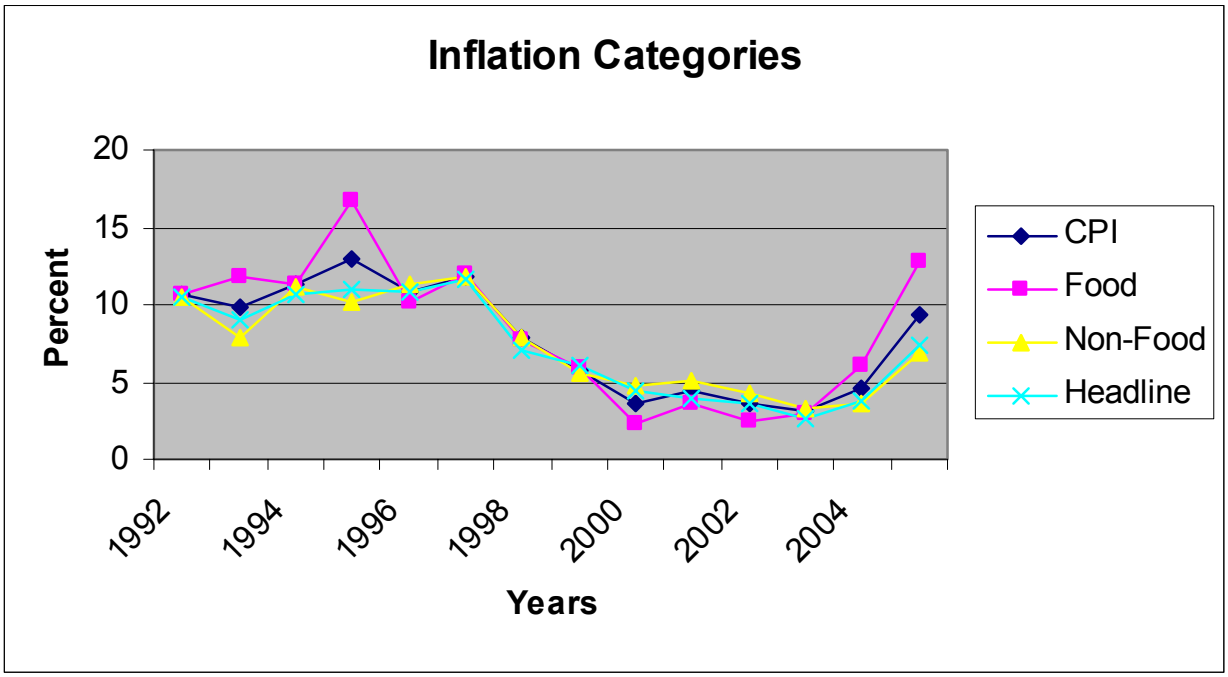

Figure 6