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Inflation Targeting in India

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Inflation Targeting in India[1]

Abstract:

Inflation targeting (IT), since its inception, has been a topic of much debate for economists all around the world. In this paper, the suitability of inflation targeting for an emerging economy like India is explored, pitching it against the multi-variable approach currently being followed. One of the foremost challenges in the present context of global economic crisis is the debate whether priority should be accorded to IT or financial stability. Also, in India, there is still another dimension and that is, which of the multiple price indices would be most appropriate for fixing as an anchor of IT. Therefore, this paper also evaluates different forms of CPI, WPI and PPI in order to find which amongst them would be the best indicator of inflation in the Indian scenario. Through analysis of conditions prevalent in India, this paper justifies why inflation targeting would not be an appropriate policy for India at this juncture, and recommends certain changes in the present multi-variable approach that would make it more robust and effective.

Keywords: Inflation targeting, price indices, multi-indicator policy, transmission mechanism

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Section 1.   Introduction

Inflation targeting is a monetary policy strategy used by central banks for maintaining inflation at a certain level or within a specific range. In general, central banks normally follow a policy of keeping inflation sufficiently low. However, in inflation targeting, there is a preset, publicly declared target. Using methods such as interest rate changes, the central bank and other monetary authorities are expected to guide inflation to a targeted level or range. Such a policy makes the central bank focus on a single variable and imposes a penalty if the target is not adhered to. This policy was initially adopted by New Zealand in 1990, although other countries, most notably Germany, had evolved something close to inflation targeting considerably earlier. Thereafter, many countries have adopted inflation targeting as a part of monetary policy during the 1990s.

However, inflation targeting has often been argued to be anti-thetic in principle to the emerging economies, prone to sudden shocks in the economy and inefficient transmission mechanisms. Nevertheless, IT has been followed successfully by few emerging market economies, while some others countries initially introduced it but have refrained because of initial failure. When considering the possibility of introducing IT, a number of parameters have to be defined initially. These include the choice of index, the speed of approach to a target and the width of the target band. Other considerations include the difficulties in forecasting, the time dependence of inflation targets and instrument instability and flexibility. Over the years, there has been a constant debate on the pros and cons of inflation targeting and whether the same can be implemented in emerging economies like India.

This paper has presented the arguments in the debate on the effectiveness of IT as the central bank's objective. After that, the factors specific to India as well as the arguments being given for the Indian scenario have been assessed. A review of the literature available on IT has been provided in Section 2. This is followed by the debate on IT in the international scenario and details of how different countries have implemented IT in Section 3 and Section 4 respectively. The Indian aspect is presented in Section 5, which includes a brief discussion on the price indices. Finally, some views are presented in the concluding Section 6 This paper can serve as an important reckoner for the various views on the debate on IT across countries. It also explores the conditions required for implementation of IT and hence substantiates why the present multi-indicator approach is best suited for India.

Section 2.   Review of Literature

Since its inception in 1990, a considerable amount of literature on inflation targeting (IT) has evolved. While some of these provide the modeling details as to how to frame economic policies for IT, some others highlight the pros and cons of IT, while the rest debate which parameters are to be considered for IT.

Major advocates of IT reason that one of the most important advantages of having IT is the accountability and transparency it brings to policy making. It helps in putting a quantitative target, and a fixed target horizon. The central banks following inflation targeting have to publish a regular

monetary policy report which includes the bank's forecast of inflation and other variables. A slight variant, flexible IT also helps to monitor other economic variables. Target variables of central banks with flexible IT include not only inflation but other variables as well, such as the output gap. Proponents of IT demonstrate empirical studies showing IT helped reduce the level and volatility of inflation in the countries that adopted it (Hammond, 2012). There is relatively robust empirical evidence that an explicit numerical target for inflation anchors and stabilizes inflation expectations (Svensson, 2007). This, in turn, would stimulate economic activity also. According to some, IT has also proved resilient during the financial crisis in some countries. Finally, IT gives independence to the Central Banks to target inflation using any instrument they want to (Ito, 2004).

One of the countries where inflation targeting has been quite successful in reducing both inflation and output volatility is the UK. Adoption of IT conferred Central Banks the liberty to differ from government numeric. The publishing of the minutes of meeting between the Governor and the Chancellor to the public, helped in enhancing the Central Bank's credibility and thereby led to formation of lower inflation expectation across consumers (Sterne, 2004). By comparing the effectiveness before and after the Bank of England gained independence, Sterne showed that inflation targeting was successful even when the bank was not independent. However, he observed that conditions in emerging economies are 'noisier'; hence the factors which led to the success in UK should not be directly generalized to these economies.

The most damaging critique is that strictly following IT may give too much weight to inflation stabilization, prove detrimental to the stability of real economy or other possible monetary-policy objectives, hence credibility of the policy is questioned (Svensson, 2007). For countries like Japan, where persistent policies to raise the inflation rate may end up achieving a very high inflation rate eventually and IT might be detrimental to the economy. Also, there is great ambiguity as to which measure of inflation to target: there are different CPI numbers to target; choice of GDP deflator may not be appropriate as it is delayed. Another side-effect might be that the long-term interest rate might go up as a result (Ito, 2004). Also, IT is costly in terms of institutional and technical requirements, making the framework unsuitable for some emerging market economies. The financial crisis in 2008 made quite a few economists skeptical about IT and its application to large-scale financial shocks. While some were of the opinion that IT was altogether dead (Frankel, 2012), some others called for fixing certain policies of IT to make it flexible enough to handle shocks (Broadbent, 2013).

Emerging market economies often find it unnecessarily costly to implement the IT framework. This is because there are a number of pre-conditions that need to be satisfied for proper implementation of IT. These include institutional independence of the central bank, a well-developed technical infrastructure in terms of forecasting, modeling and data availability and an economy with fully deregulated prices, not overly sensitive to commodity prices and exchange rates, and with minimal dollarization. It also calls for a healthy financial system with sound banks and well-developed capital markets, with price stability as the overriding monetary policy goal and absence of fiscal dominance. In other words, to implement IT in an economy, the transmission mechanism needs to be smooth for the economy to reap the benefits of IT within a short period of time. There needs to be broad domestic consensus on the prominence of inflation target, some basic understanding of the transmission

mechanism and a reasonable capacity to affect short term interest rates. But evidence suggests that some of the inflation targeting emerging economies did not fulfill the preconditions in place before adopting IT.

There have been large deviations from the standard IT framework by various Latin American inflation targeting countries which helped them deal with the 2008 recession and recover rapidly (Céspedes, Roberto and Velasco, 2012). Some of their policy responses for dealing with various economic problems have been the change in the monetary policy rate, programs of international reserves accumulation, exchange rate interventions and taxes on foreign purchases of fixed income securities. They have pushed for minimum reserve requirements, widening of acceptable collateral for central bank operations and provision of international liquidity. The fact that central banks had ample space to implement these "unconventional" measures helped to reduce uncertainty and limit negative effects of the recession on these countries. These nations returned to a pre-crisis state very quickly. Some central banks were reluctant to let the exchange rate to appreciate in order to reduce inflation pressures. Most Latin policymakers used both interest rate policy and reserve requirements at the same time for curtailing credit. Increasing rates would have attracted capital and appreciated exchange rates, while raising reserve requirements achieved the same target of curtailing credit without creating unwanted interest rate differentials.

Generally, IT is set between 1-3% for industrialized countries (Khan and Senhadji, 2000). It might be difficult to set a higher target and maintain it for India, as this might affect growth and exchange rates (Svensson, 2007). IT above a rate of 3-4% might incur welfare costs for the public at large. Target horizon for IT is also a concern for India, as it is subject to short-term economic and political shocks.

Various economists have given their versions of how to model inflation targeting. In 2001, the IMF developed a two-country version of the Global Economy Model (GEM), a Dynamic Stochastic General Equilibrium (DSGE) model. Developed to address issues that involve both monetary and fiscal policy, it has been extensively used in the IMF to analyze the impacts of debt, fiscal stimulus, external shocks, pension reforms on domestic policies and explain the effects of IT. These models have been useful, but they have some noteworthy limitations, including that the current version of DSGE lacks linkages between the macro-economy and the financial sector (IEO, 2011). If policy makers do believe these models' forecasts, they will always be handling a very well behaved economy that faces little problems because whatever the size of external shocks, it is only a matter of time for the market adjustment to pull the country out of the mess (Garcia, 2011). Hence, for an emerging country like India, considering the pros and cons of inflation targeting, modeling it on the basis of DSGE may lead to economic system failure in high intensity turmoil. The models can serve as good guides but many more factors would need to be considered.

Moreover, in India the arguments against inflation are constantly neglecting the demographic aspect. In this context, there has been a constant flow of good research from Japan. Shirakawa (2012) argues that the economic profession does not make a distinction between the qualities of population in their models of economic growth. The expansion of the working age population along with free trade led to rapid growth in advanced countries but things are changing since 1990s. The behavior of the ageing population is different from the young population, as is their productivity and consumption pattern,

which impacts the current account, reflecting the savings-investment gap in the economy. The "spending wave" hypothesis is associated with young population and Shirakawa (2012) refers to empirical studies correlating inflation with population growth rate in 24 advanced countries. Bullard, Garriga and Waller (2012) find that a young population generates high inflation and ageing population places downward pressure on inflation. Ikeda and Saito (2012) using a dynamic general equilibrium model report that ageing lowers real interest rates in the economy, implying lowering of inflation. Finally, Nishimura (2011), argued that in Japan, the US, and some other countries, asset markets are correlated to the working age population, and that bubbles coincide with turning points in demographic trends. Blanchard (2010) has been advising countries to raise their inflation targets, because targets those are too low impact employment and growth.

Section 3. The International Context

Recently, there is a growing consensus that the Central Bank should have instrumental independence, and concentrate on a single target of inflation control with the use of a single instrument. The pros and cons of inflation targeting for an emerging economy like India were looked at from this perspective.

Internationally, the proponents of inflation targeting have put forth a number of positives arising out of following a single target approach. The most important of these is the accountability and transparency to the system that inflation targeting brings, something that most of the IT proponents have harped upon. Isard et al. (2001) argued that this transparency accounts for the effectiveness of monetary policy by facilitating the behavior of participants in financial markets. When financial markets understand and anticipate the actions of the central bank, the transmission mechanism between policy actions, economic activity and inflation work more smoothly. Mishkin and Schmidt-Hebbel (2007) point out that IT helps to reduce the inflationary impact by enhancing the central bank's credibility and stabilizing consumer expectations, quite in line with what Laxton (2008) observed. They saw that currencies were 10 times less sensitive to foreign inflation after the host country had adopted targeting. Over the long term, lack of a target also could reduce the credibility of a central bank when not seen as being held accountable to a standard. This was reiterated by Bernanke and Mishkin (1997), who felt that IT will help the central banks to exercise any policies to stabilize the economic conditions (which might be related to intermediate goals), without losing the confidence of the public. Cecchetti (2006) also added that an agreed and publicly announced objective focuses the monetary policy committee's internal debate.

Freedman and Laxton (2009a) also pointed out that IT led to inflation being held within a reasonable range, hence negating the costs of inflation. They indicated that the costs of inflation were significantly large, since it affected long-term decisions by savers and investors. Another cost of inflation is the high volatility associated with high levels of inflation. High volatility incurs welfare costs for the economy as it makes a decision-maker less likely to invest in a project. Continuation of high rates of inflation on asset prices for some time often leads to bubbles in asset prices. Other costs of inflation include distortion of relative prices and taxation, output and unemployment volatility (Laxton, Batini and Kuttner, 2005). Most tax codes are based on the assumption of price stability and do not take into

account the impact of inflation on financial statements. Since depreciation for tax purposes is based on the original cost of the capital assets, it underestimates the reduction in value over time of the asset. Therefore, profits and corporate taxes are overstated under such circumstances. High and volatile inflation also contributes to output and unemployment variability, which leads to instability in the economy.

Another important aspect of inflation targeting is that it acts as a nominal anchor for monetary policies of central banks. After the failure of monetary targeting and exchange rate targeting as a nominal anchor, inflation targeting has, since its inception, been the instrument of choice for central banks when it comes to anchoring. Central banks consider a nominal anchor useful in conducting monetary policy since it helps clarify both within the central bank and to the general public the objective of the central bank. Isard et al. (2001) points out that this prevents situations in which the members of the monetary policy decision-making body are aiming at very different objectives. A publicly announced policy anchor also helps the central bank to communicate externally both its policy goals and the reasons for changes in its policy instrument. Bernanke and Mishkin (1997) argue that IT is a better parameter to target as compared to nominal GDP mainly because, inflation data is more frequently and easily available as compared to nominal GDP. According to Cecchetti (2006), by providing a natural language to explain monetary policy actions, IT also enhances communication with politicians, financial market participants and the common public.

Other proponents of IT also argue that an effective inflation-targeting regime will have beneficial first-order effects on welfare by reducing uncertainty, anchoring inflation expectations and reducing the incidence and severity of boom-bust cycles. Also, in long-term bond markets, the more uncertain the future rate of inflation, the higher will be this uncertainty risk premium, and the higher will be the real cost of borrowing even if expectations of future inflation turn out to be correct. This in turn will affect aggregate investment in the economy. Cecchetti and Kim (2004) pointed out that IT creates an environment in which everyone believes policymakers will keep inflation low, anchoring long-term inflation expectations which will lead to wage increases remaining contained. Thus, a vicious cycle from higher prices to higher wages to yet higher prices cannot get ignited.

Jonas and Mishkin (2004) point out that, because of the lags in the monetary transmission mechanism, and because of the concern with both the deviation of inflation from its target and the deviation of output from potential, it is neither possible nor desirable to keep current inflation exactly on target and in practice inflation targeting becomes inflation-forecast targeting. They further concede that inflation targeting is technically more demanding than other monetary policy frameworks, and several preconditions have been identified that must be met if inflation targeting is to be successful. These frameworks are not in place in most of the developing nations. However, they do specify how IT can be implemented in transition economies like the Czech Republic with slight moderation. Whereas this raises questions on the implementability of IT in most emerging economies which do not have the necessary policy frameworks in place, Mishkin and Schmidt-Hebbel (2007) opine that developing or emerging nations with high inflation are the ones who will benefit the most from inflation targeting. For mature, developed nations like the United States, the benefits are far more subtle. By taking a broad sample of 21 industrial and emerging-economy inflation-targeting countries over time, and

comparing them with a group of 13 industrial non-targeters, they concluded that a target does indeed improve economic performance but the effects vary dramatically depending on the type of economy that attempts it. They inferred that IT seemed to provide the biggest help to nations those are struggling the hardest to tame inflation, while its effects on nations with more benign price appreciation are relatively small.

This view was further strengthened by Cecchetti (2006), who said that experience with inflation targeting has universally been positive and stresses that it is the best practice in the 21st century decision-making. According to him, inflation targeting does not ignore fluctuations in growth, employment and long-term interest rates. According to Cecchetti and Kim (2004), no country that has adopted the framework has turned back, apparently because inflation targeting enhances long-term economic performance.

There is also a view that inflation targeting can help to manage exchange rate volatility. Gagnon and Ihrig (2004) developed a model to study the relationship between IT and exchange rate pass-through. There were three major outcomes of the same. Firstly, the countries with low and stable inflation had low pass through of exchange rate fluctuations to prices. Second, the nations recording a decline in the level or standard deviation of inflation saw a greater reduction in the pass-through effect. And lastly, the countries which adopted IT (or started working towards inflation stabilization) saw the greatest reduction in the pass-through effect.

Further, Edwards (2006) studied the relationship between IT and exchange rate volatility for various countries. He observed that for Australia and Canada, which had floating exchange rate, pre- and post-IT, there has been a negligible change in nominal exchange rate volatility. For countries like Brazil and Chile, the exchange rate volatility has actually reduced post IT implementation. Edwards felt that the major reason for the same could be that IT has a transparent and predictive monetary framework, thus helping the nation to absorb shocks in a better manner.

Coulibaly and Kempf (2010) also tried to study the effect of IT on the exchange rate pass-through to prices. Their findings state that adoption of inflation targeting by emerging countries has led to a decrease in the pass-through of exchange rates to consumer, import and producer prices. Emerging market economies have a fear of floating exchange rate. For most nations, their major debt is in US dollars and hence, the concern for the exchange rate. Also, the pass through effect of the fluctuations to domestic prices is a concern for these nations. Hence, they are unable to focus entirely on inflation targeting. A counter argument to the same is that, the pass through effect might actually reduce with IT implementation. This is so because, if the domestic agents have confidence in the monetary policies for price stability, they will not be altering prices based on exchange rate shocks. Taguchi and Sohn (2010) found that for Korea, which has a forward-looking approach to inflation targeting, the pass-through rate has dropped significantly post IT.

According to Pontines (2011), the developing countries that target inflation have lower exchange rate (nominal and real) volatility as compared to those that do not. From empirical evidence, for industrial countries with inflation targeting, the exchange rate volatility was found to be higher than that for developing countries. Pontines said that the industrial and developing countries form two non-

overlapping sections. The industrial nations are financially robust and hence, are not affected much by exchange rate volatility. For developing nations, if IT works well, exchange rate volatility remains under control.

Bean (2003) is amongst those economists who believe inflation targeting alone is not enough as a goal for monetary policy. Although he concurs that IT brings across price stability, he says that there is no guarantee that there will be no financial imbalances. He says that a formal structure of inflation targets should be in place, but the policymaker should also be aware of the implications of the activities employed to achieve the targets, else it could lead to financial imbalances, asset price misalignment and instabilities. As a result of these, there might be a significant impact on inflation as well. Hence, according to Bean, flexible inflation targets are enough, but the monetary policies implemented should look into the future and try to study their impacts to assure that instabilities do not occur. Bernanke and Mishkin (1997) have also suggested that IT works well when it is a framework policy and not an "ironclad policy rule". This view, they say, removes some of the arguments against IT and hence, enhances its appeal. IT as a monetary policy is strongest when it is for medium-term or long-term horizons, as, according to most economists, monetary policies affect output and employment only in the short run. For inflation targeting central banks, the intermediate goals, such as exchange rates or money growth, always take a back seat when it comes to a conflict with inflation goals.

As mentioned in the debate, transmission policy is an important factor that determines whether inflation targeting can be successful in a country or not. It is often argued that emerging markets lacking a developed transmission policy - be it the traditional interest rate channel, the credit or loan supply channel, the exchange rate channel or the asset price channel, would have significant problems managing other parameters if they solely target inflation. Mukherjee and Bhattacharya (2011) tried to analyze the correlation between inflation targeting and transmission policies in emerging market economies. They found that the real deposit rates have a direct impact on private consumption in emerging market economies that follow inflation targeting, but not in Middle East and African countries. They concluded that the adoption of IT did not significantly alter the operation of the traditional Keynesian interest rate channel. Leiderman and Bar-or (2000) analyzed Israel's inflation targeting policies and found that there is a strong interaction between transmission mechanism and monetary policy rules under IT, since the second half of 1998.

Section 4. Cross-country Experiences

Even in countries that follow inflation targeting, different countries define inflation targeting in different ways, and choose different indicators to target. So, while United Kingdom defines price stability by the Government's inflation target of 2% based on CPI announced each year in the annual Budget Statement, New Zealand requires price stability be defined in a specific and public contract, negotiated between the Government and the Reserve Bank, called the Policy Targets Agreement (PTA). In Canada, monetary policy is built around flexible exchange rate and inflation control target. Thailand, on the other hand, targets core CPI exclusive of raw food and energy prices from headline inflation and the Monetary Policy Board (MPB) sets the inflation target in terms of quarterly average core inflation in the range of 0.5% to 3%. It is also interesting to note that the penalties associated with deviating from

the inflation target vary from country to country. While UK and the Philippines incorporates a straight penalty rule where the Governor must write an open letter to the Chancellor/President explaining the reasons why inflation has deviated from the target if the target is missed on either side, Thailand requires the MPB to explain what measures have to be taken, as well as the time required, to bring inflation back within the range. Similar objectives for inflation targeting for some other countries have been specified in detail in the annex.

The price indices used for inflation targeting, the target band for inflation, the horizon and the speed of approach to inflation targeting and the penalty for not adhering to the target is different for different countries. Most of the countries use CPI as the index for targeting inflation. Along with the index, there are also a number of other factors that have to be taken care of while designing inflation target. Table 1 demonstrates the target measure, type and horizon for various countries.

Table 1: Inflation target measure, type and horizon for select inflation targeting countries

Country	Target measure	Target 2013	Target type	Target horizon	Started in
Armenia	HCPI	4% ± 1.5pp	Point with tolerance band	Medium term	2006
Australia	HCPI	2% -3%	Range	Medium term average	1993
Brazil	IPCA	4.5% ± 2pp	Point with tolerance band	Annual target	1999
Canada	CPI	2% (mid-point of 1% - 3%)	Point with tolerance band	Medium term (Six-eight quarters)	1991
Chile	CPI	3% ± 1pp	Point with tolerance band	Around two years	1990
Colombia	HCPI	3% ± 1pp	Range	Medium term	1999
Czech Republic	HCPI	2% ± 1pp	Point with tolerance band	Medium term (12-18 months)	1998
Ghana	HCPI	9% ± 2pp	Point with tolerance band	18-24 months	2002
Guatemala	HCPI	4% ± 1pp	Point with tolerance band	End of Year	2002
Hungary	CPI	3%	Point	Medium term	2001
Iceland	HCPI	2.5% ± 1.5pp	Point with tolerance band	On average	2001
Indonesia	HCPI	4.5% ± 1pp	Point with tolerance band	Annual target	1999
Israel	CPI	1% - 3%	Range	Within two years	1991
Japan	CCPI	2%	Point	Within two years	2012
Mexico	CPI	3% ± 1pp	Point with tolerance band	Medium term	2001
New Zealand	HCPI	1% - 3%	Range	Medium term	1990
Norway	ACPI	2.5%	Point	Medium term	2001
Peru	CPI	2% ± 1pp	Point with tolerance band	At all times	2002
Philippines	CPI	4% ± 1pp (2013-14) 3% ± 1pp (2015-16)	Point with tolerance band	Medium term	2002
Poland	CPI	2.5% ± 1pp	Point with tolerance band	Medium term	1999
Romania	HCPI	2.5% ± 1pp	Point with tolerance band	Medium term	2005
Serbia	CPI	4% ± 1.5pp	Point with tolerance band	Medium term	2009
South Africa	CPI	3% - 6%	Range	On a continuous basis	2000
South Korea	HCPI	3% ± 0.5pp	Point with tolerance band	Mid-term horizon	1998
Sweden	CPI	2%	Point	Annual	1993
Thailand	CCPI	0.5% - 3%	Range	Eight quarters	2000
Turkey	CPI	5%	Point	Medium term (3 years)	2002
United Kingdom	CPI[*]	2%	Point	At all times	1992

Note:* Earlier, United Kingdom targeted RPIX

pp: percentage point(s); CPI: Consumer Price Index; CCPI: Core Consumer Price Index; HCPI: Headline Consumer Price Index; IPCA: Broad National Consumer Price Index; ACPI: Annual Consumer Price Index

Source: Hammond 2012, Author's update from websites of respective Central Banks

Section 5. IT in India

Monetary policy aims to target inflation over a horizon of 2 to 3 years. Therefore, to target inflation, it is necessary to have the capability to build an inflation forecast. India has yet to develop skills to forecast inflation over a range of 8 to 12 quarters. In countries which follow IT, sophisticated models are used to forecast inflation. Similarly, there is need to forecast output and its deviation from natural rate, implying forecasting of output gap. The other issue is the target inflation number which needs to be identified and quantified. When considering inflation targeting, it also has to be ascertained as to which of the price indices to use to target inflation. Different economists have different opinions regarding the same, so a preliminary study was conducted as to the options that are available and their implementability as inflation targets. The major price indices followed and measured in India are given in Table 2.

Table 2: Major price indices in India

Price Index	Compiled by	Frequency of release	Types/ Remarks
Wholesale Price Index (WPI)	Office of Economic Advisor in the Ministry of Industry	Weekly	National
Consumer Price Index (CPI)	CPI (IW, AL, RL) – Labour Bureau in the Ministry of Labour and Employment; CPI (UNME) – Central Statistical Organisation in the Ministry of Statistics and Programme Implementation	Monthly	Industrial Workers(IW), Agricultural Labourers (AL), Rural Labourers (RL), Urban Non-Manual Employees (UNME)
CPI-New	Central Statistics Office (CSO)	Monthly	Rural, Urban and Combined

Source: Authors' compilation

Consumer Price Index

A number of CPI indices have been used and modified over the years. Table 3 provides a comparison of the different CPI Indices.

Table 3: A comparison of different CPI indices

Salient feature	CPI (UNME)	CPI (IW)	CPI (AL)	CPI (RL)	New CPI Rural	New CPI Urban
When started	1961	Oct 1946	Sept 1964	Nov 1995	Feb 2011	Feb 2011
Source of weights -Family Living Survey -Consumer Expenditure Survey	1982-83	1999-2000	1983 (NSS 38th Round)	1983 (NSS 38th Round)	2004-05 (NSS 61st Round)	2004-05 (NSS 61st Round)
Base year of the series	1984-85	2001	1986-87	1986-87	2010	2010
No. of centres/villages	59 urban centres	78 centres	600 villages	600 villages	1181 villages	310 towns

No. of markets/quotations	1022	289	1461	1461	1181	1114
No. of items in the consumption basket	146-345	175-200	260	260	175	200
Index released for	59 centres & all-India	78 centres & all-India	20 states & all-India	20 states & all-India	All States and UTs (35) & all-India	All States and UTs (35)& all-India
Periodicity of index	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Time lag of the index	24 days	1 month	3 weeks	3 weeks	1.5 weeks	1.5 weeks

Source: Manual on CPI 2010, National Price Indices and Inflation during 2012

Wholesale Price Index

The base year of WPI has been revised on number of occasions, with the current series of WPI using 2004-05 as the base year, and was launched on September 14th, 2010. A brief on the historical development of WPI year-on-year is provided below: -

Table 4: Historical development of WPI

Base year	Year of introduction	No. of items in index	No. of price quotations
Week ended 19th August 1939	1942	23	23
End August 1939	1947	78	215
1952-53 (1948-49 as weight base)	1952	112	555
1961-62	July 1969	139	774
1970-71	January 1977	350	1295
1981-82	July 1989	447	2371
1993-94	April 2000	435	1918
2004-05	September 2010	676	5482

Source: WPI Manual, Government of India

Due to certain shortcomings in WPI calculation, the feasibility of compiling a Producer Price Index (PPI) and switching over from WPI to PPI was explored, leading to introduction of Stage of Processing Index (SOP). This aimed to avoid multiple counting and measuring inflation based on finished goods. The PPI measures price change from the perspective of the seller. Also, the option of including services sector was looked at. WPI has been replaced in most countries by Producer Price Index (PPI) due to the broader coverage provided by the PPI in terms of products and industries and the conceptual consistency between the PPI and system of the national account. For policy formulation and analytical purpose, measurement of price changes from producers and consumers prospective is considered far more relevant and technically superior compared to one at wholesale level.

In order to get an idea of the average level of inflation in India, the number of years WPI and CPI values were in specific ranges from 1970-71 to 2012-13, has been provided in(Table 5). CPI (UNME) has not been included since it was discontinued in January 2011, hence the data was not available for the year 2013. CPI (RL), New CPI Rural and New CPI Urban also were not to be included since they are very

recent indices. In the wholesale price index, it can be noted that fuel and power has experienced the highest levels of inflation over the years, while inflation levels in the All Commodities (AC) and Manufactured Products (MP) brackets has mostly hovered in the below 9 range. In CPI, both Industrial Workers and Agricultural Laborers had below 5 inflation values for the most number of years, followed by values in the range of 9-11. Thus, there are differences in different price indices used in India. Therefore, food prices (F and P) as measured in WPI were higher than 13 percent for 12 of the last 42 years. This reflects that the food prices are subject to vagaries of nature and probably supply side factors

Table 5: Annual WPI and CPI value ranges India1970-71 to 2012-13

Range	Wholesale Price Index			Consumer Price Index	
	AC	F&P	MP	IW	AL
<5	13	9	16	11	16
5 - 7	8	10	9	6	2
7 - 9	10	2	6	8	4
9 - 11	5	6	3	8	9
11 - 13	1	3	4	5	6
>13	5	12	4	4	5
Total	42	42	42	42	42

Note:
AC: All Commodities; F & P: Fuel and Power; MP: Manufactured Products; IW: Industrial Workers; AL: Agricultural Laborers
Source: Authors' computations based on Handbook of Statistics on the Indian Economy, 2012-13

The talks about inflation targeting in India started in the late 1990s and were heightened after the Reserve Bank of New Zealand's Governor delivered a speech during the L. K. Jha memorial lecture series in 1999 on how New Zealand's experience with IT can be relevant for developing countries.

Narasimham (2000) and Rajan (2007) Committees recommended the implementation of IT, with a fixed medium term target, in India. They felt that currently RBI does not have a clear objective and the inflation rates are residuals of various policies. IT will make RBI accountable and provide it complete autonomy to achieve its targets, without any intervention from the Parliament and the government. Rajan (2013), in his first speech as RBI Governor, again emphasized the importance of low and stable inflation for Indian monetary policy[2].

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[2]In his first speech as RBI Governor, Rajan (Reserve Bank of India, 2013) highlighted the importance of inflation targeting and set up an Expert Committee under Deputy Governor Urjit Patel to assess the current monetary policy and give recommendations to strengthen it, i.e. make it more transparent and predictable.
The terms of reference of the Committee are (Reserve Bank of India, 2013):
1. To review the objectives and conduct of monetary policy in a globalized and highly inter-connected environment.
2. To recommend an appropriate nominal anchor for the conduct of monetary policy.
3. To review the organizational structure, operating framework and instruments of monetary policy, particularly the multiple indicator approach and the liquidity management framework, with a view to ensuring compatibility with macroeconomic and financial stability, as well as market development.
4. To identify regulatory, fiscal and other impediments to monetary policy transmission, and recommend measures and institutional pre-conditions to improve transmission across financial market segments and to the broader economy.

According to Narasimham Committee and Rajan Committee, maintaining a low and stable inflation, would automatically lead to a stable GDP growth. This in turn would allow households and firms to make long term decisions confidently, leading to an increase in investments and allowing RBI to take monetary policy decisions beneficial to long term growth and employment. Rajan (2007) further argued that in a country like India, where inflation is not extremely high, and the central bank is considered reasonably credible by the public, focusing on inflation should not lead to a loss in output growth. In fact, since the floor of the target variable is treated equally seriously in an IT regime, a deflationary slowdown in growth would also be taken care of properly. RBI can cut short term interest rates to stimulate growth without a rise in inflation expectations. Narasimham Committee felt that if the RBI is successful at achieving inflation target, a low inflation rate would contribute to exchange rate stability as well.

IT being a predictable and transparent policy framework, Rajan (2007) mentioned that it provides more room for policy makers to respond to large shocks because the market would better understand the objectives of monetary policy. He said that in the present multi indicator approach, due to unpredictability of policies, there is an unpredictability in market participants' responses to policy actions, which in turn constrains the room for aggressive policy responses to shocks. But he also admits that financial reforms are required to improve transmission mechanism for the successful implementation of IT. According to Mohan (2007a), efficient financial market operations and absence of distortions in interest rates can make the monetary transmission mechanism efficient.

But there are others who are against implementing IT in India. Since 1998, India has been following the multi-indicator approach, which according to Subbarao (2013) has been quite successful till now. Under this approach, a number of quantity and rate variables, such as credit, output, inflation rate, exchange rate, interest rate etc. are analyzed for making the monetary policy. Central banks' objective is to maintain price stability, growth and external sector management and financial stability. Many central banks have development mandate as well. As per Reddy (2008), democratic pressures in India provide the monetary policy a disciplinary force, which in turn has allowed India to perform well in comparison to other developing countries. Jha (2008) also supports this fact by saying that the multi-objective approach prevalent in India has successfully maintained stable inflation, interest rates and a slightly undervalued currency, which has helped in promotion of exports and hence growth. He further emphasizes that IT should not be implemented in India because India lacks proper conditions for successful implementation of IT, some of which are: adequately developed financial markets, confidence of global capital markets to enable a flexible exchange rate, independence of the RBI, more demand shocks compared to supply shocks, high frequency data requirements and an appropriate measure of inflation. In India, the fiscal and monetary policies are not completely independent of each other and the interest rate transmission channel is also weak.

Further, both Jha (2008) and Subbarao (2013) have explained that alleviating poverty should be one of the major concerns of India's monetary policy. This requires a sustained high GDP growth in the country. But there is an inherent trade-off between growth and inflation. In a developing country like India, which is largely non-monetized and agricultural, this trade-off becomes much more important

5.   To carefully consider the recommendations of previous Committees/Groups in respect of all of the above.

(Jalan, 2000). He also mentioned in this regard that in case of such a trade off in the short term, transmission lags and uncertainty about the future can render such a mechanistic and narrow rule ineffective. In his opinion, the view on "one target, one instrument" won't survive for long. According to Subbarao (2011), one of the factors which makes this complicated is the fact that, due to supply constraints and under-utilization of capacity, estimation of potential output and hence output gap becomes difficult. Thus, this trade-off has to be dealt with utmost caution and judgment. He also reiterated that India being an emerging economy, it is not wise for RBI to ignore the larger development context. He gave evidence from the 2008 crisis that due to IT, many central banks could not cope up with the increased financial innovation and global imbalance.

Another point of debate is on the objective of exchange rate. How important is exchange rate stability for India, an emerging economy? Also, is it possible to maintain a stable exchange rate under an IT regime? For successful implementation of IT, other anchors such as exchange rate need to be kept floating. According to Jalan (2000), most countries that do follow IT, even though they claim that exchange rate doesn't concern them unless it affects domestic inflation, do interfere in forex markets in order to achieve exchange rate objectives. Also, exchange rate volatility can have large real effects in a developing nation. Jha (2008) says that India is vulnerable to exchange rate crisis and needs to maintain an undervalued exchange rate to encourage exports and hence, cannot afford the volatility in exchange rate that comes with IT. An IT regime leads to highly unstable and inappropriate exchange rate.

Mohan (2007a) also supports this by saying that emerging market economies (EMEs) are gullible to large exchange rate shocks, which in turn can largely impact short-term inflation. Since, EMEs are commodity-price sensitive economies, exchange rate monitoring is very important, as impacts to commodities can damage forecast ability of consumer price inflation.

But for developing nations like India, supply shocks (for e.g. effect of monsoons on agriculture) rather than demand shocks are the major reason for inflationary pressures. According to Jha (2008), Mohan (2007a) and Subbarao (2011), monetary policies can stabilize inflation only caused due to demand shocks, and are ineffective against supply shocks. In fact, IT policies will lead to a reduction in demand and thus make worse the recessionary effect on output (Jha, 2008). Also, as per Subbarao (2013), in case of emerging economies it is not easy to determine whether the supply shock is temporary or structural, a necessary pre-condition for the decisions of the central bank.

Monetary transmission mechanism is another necessary condition for the implementation of IT. Mohan (2007b) says that India lacks an efficient monetary transmission mechanism which would make it difficult for IT implementation.

Another major point highlighted is the absence of a proper measure of inflation in India. In terms of frequency of release and coverage of commodities, WPI is better than CPI. But WPI doesn't include services, thus won't be representative of economy due to the very big share of services in GDP. Also, there are large biases due to the weights and base year of the indices. CPI, which is indicative of the standard of living, diverges significantly from WPI. Finally, the quality of data and consistency are quite poor in India. In both Reddy's (1999) and Kannan's (1999) opinion, GDP deflator is the best measure for

inflation as it includes all economic activities, but due to its very low frequency of release of one year, that too with a long lag of a year, makes its use unviable.

Section 6. Conclusions and Recommendations

Various economists, both Indian and otherwise, have presented their views on inflation targeting. It is widely accepted that adoption of IT has helped most countries reduce their inflation rates successfully. Also, it helps increase the transparency and credibility of the central bank, thus allowing it to carry out its monetary policy with greater effectiveness. IT provides a nominal anchor, and helps to stabilize inflationary expectations in an uncertain future. Also, for some nations, exchange rate volatility has also declined as a result of IT implementation.

But on the other hand, IT demands a number of pre-conditions for its successful implementation such as independence of central banks, well developed financial markets, flexible exchange rate, etc. Most emerging economies, including India, lack these conditions. Besides, RBI has objectives to take care of other parameters like economic growth, stable exchange rate and financial stability, and cannot restrict itself to the single objective of inflation.

Inflation models used to forecast inflation by central banks, which goes as an input to IT, fail to capture the relationship between the financial and the real sectors. This relationship has particularly become very important after the recent financial crisis. Also, due to the extremely transparent policies of the banks, the problems of moral hazard and market indiscipline arise. Given that India was to an extent insulated from the 2008 financial crisis mainly owing to its multi indicator approach and focus on financial stability, and not just on price stability, it is advisable not to give up this policy. Hence, implementing inflation targeting in India at this stage would not be beneficial.

Another very important argument against implementing IT in India is that it is mainly designed for countries where the inflation is due to demand factors, whereas in India, it is the supply side factors which are causing inflation. The major reasons for inflation have been agricultural vagaries due to irregular monsoons and the huge imports of oil in the country. India is an emerging economy where growth and exchange rate have been quite volatile. The exchange rate in any small open economy is influenced by many factors, including uncertainties in the global economy and not only internal factors. Hence it becomes important to manage the exchange rate to make sure the economy is, to the extent possible, insulated from external shocks. Another problem with implementing IT would be that the transmission mechanism in the country is not very strong and there are a lot of uncertainties involved in that as well. Hence, the policy makers cannot be very sure of whether their efforts would yield the desired results. All these factors again suggest that right now India is not ready for inflation targeting.

India's monetary policies can be improved on a number of levels, such as release of economy's outlook and people's expectations and preferences at a regional level, detailed information on NPAs, details of exchange rate management by RBI and its estimates of the real interest rate and liquidity in the market. Also, separating debt management from monetary management in order to make the central bank more independent would be a good move since currently, the RBI is not transparent in setting its interest rate decisions as the debt management office is a part of it. Currently the focus of RBI and the

Government are different, controlling inflation and boosting growth respectively. However, the Government and the RBI should work together in fixing the interest rates. An independent and accountable committee can be formed for setting the interest rates which should properly give the factors it is considering and its reasons for setting the policy rates.

Apart from the debate on IT, especially for emerging economies, some of the major factors that need to be studied for India have been identified. It is found that India has been performing well with its Multiple Indicator Approach till date. However, given the performance of India for the last 5 years, at least in terms of inflation, the decision to stick to a multi-indicator approach amidst the entire debate about inflation targeting has been vindicated. Since the turn of events after the crisis, a dual policy of price stability coupled with growth is a sensible approach for an emerging economy. EMEs are, in general, subject to economic shocks of higher magnitude during financial crises, and financial stability becomes the sole objective under such circumstances. Therefore, RBI should continue its Multiple Indicator Approach where price stability, financial stability and economic growth are considered for decision-making. However, deducing the positives that can come out of focusing on inflation, a greater weightage should be given to inflation in the Multiple Indicator Approach. This would ensure that inflation does not go out of bounds, but at the same time, growth would not be sacrificed for the sake of inflation.

In fact, other developing countries can implement the multi-indicator approach, with a higher weightage given to inflation. Like India, these countries also do not have an effective transmission mechanism, flexible exchange rate and several other pre-requisites for IT implementation. A number of EMEs that have been following IT have been restraining growth and are subject to financial shocks in the wake of the financial crisis. Adopting the multi-indicator approach would not be difficult for these countries, given that price stability and economic growth is already a concern they have been implicitly battling.

Other recommendations would be to focus on the new CPI that is more representative and provides regional characteristics. Also, the new CPI includes services and hospitality sector, which is a must for a country like India that is booming in services. This also confirms why a Multiple Indicator Approach is the way forward for India.

The demographic aspects need to be considered while managing inflation. India, which is unique given its young demographic status, should factor in the aspirations and consumption demand of the young population and focus on employment generation and growth, rather than low inflation rate, solely based on experiences of advanced countries.

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Annexure

The following table gives a gist of inflation targeting as defined in the law or policy of some select countries:

Table: Inflation targeting as defined in some select countries

Country	Target/ Objective	Measure	Additional Considerations (if any)
United Kingdom	Price stability is defined by the Government's inflation target of 2%. The Government's inflation target is announced each year by the Chancellor of the Exchequer in the annual Budget Statement. The target is expressed in terms of an annual rate of inflation based on CPI.	CPI	If the target is missed by more than 1 percentage point on either side, the Governor must write an open letter to the Chancellor explaining the reasons why inflation has deviated from the target and what the Bank proposes to do to bring inflation to the target.
New Zealand	The Reserve Bank of New Zealand (RBNZ) Act requires that price stability be defined in a specific and public contract, negotiated between the Government and the Reserve Bank, which is called the Policy Targets Agreement (PTA). As per the current PTA (there have been nine PTAs since the passage of the RBNZ Act, 1989) price stability is defined in terms of an inflation target of 1-3% on average over the medium term, defined in terms of the all groups CPI, with a focus on keeping future average inflation near the 2% target midpoint, as published by Statistics New Zealand.	All Groups CPI	The Act requires that the PTA sets out specific price stability targets and the agreement, or any changes to it, must be made public. The PTA also says that when external events push inflation above or below its medium term trend, "the Bank will respond consistent with meeting its medium term target". Furthermore, as it implements monetary policy to achieve price stability, the Bank "shall seek to avoid unnecessary instability in output, interest rates and the exchange rate."
Canada	Canada's monetary policy is built on a framework consisting of two key elements, namely, flexible exchange rate and inflation control target. At present, the inflation control target range established by the Bank of Canada and the federal government is 1-3% annual inflation as measured by the rate of change in the total CPI.	CPI	To keep inflation within this range, monetary policy aims at the 2% target mid-point over the six to eight quarters that are required for monetary policy to have most of its effect. By consistently aiming at 2 per cent for the 12-month rate of inflation, monetary policy can enhance the predictability of average inflation over longer time horizons.
Korea	As per the Bank of Korea Act (Formulation of operation plan of monetary policy), the Bank determines the annual inflation target for each year in consultation with the government. Currently, the target has been set for the period 2013-2015 as a range of 3±0.5% in terms of the 3-year average of annual consumer price inflation.	CPI	In setting the inflation target itself at this range, the Bank aims to reflect the appropriate rate of inflation consistent with Korean economic fundamentals and to allow itself flexibility in conducting monetary policy to deal with short-term economic fluctuations.
Thailand	The Bank of Thailand decided to launch inflation targeting under the existing legal framework, whereby the Monetary Policy Board (MPB) was first appointed on April 5,	Core CPI[#]	The amendment to the Bank of Thailand Act, which is currently going through the parliamentary process, will give the MPB its official legal status and its operational

	2000 and vested with the power to decide monetary policy by the Governor. Currently, the inflation target is set in terms of quarterly average core inflation in the range of 0.5 to 3%. The Bank adopted inflation targeting in May 2000.		independence in the conduct of monetary policy. If core inflation strays from the target range, the MPC will have to explain why the target was breached and what measures have to be taken, as well as the time required, to bring inflation back within the range.
The Philippines	The primary objective of the BSP's monetary policy is "to promote price stability conducive to a balanced and sustainable growth of the economy" (Republic Act 7653). The adoption of inflation targeting framework of monetary policy in January 2002 is aimed at achieving this objective. The government's inflation target is defined in terms of the average year-on-year change in the CPI over the calendar year. The target for both 2013 and 2014 has been set at 3-5%.	CPI	To ensure accountability in cases where the BSP fails to achieve the inflation target, the BSP Governor issues an Open Letter to the President outlining the reasons why actual inflation did not fall within the target, along with the steps that will be taken to bring inflation towards the target.
Indonesia	Inflation targeting is consistent with the mandate of 1999 Act concerning Bank Indonesia as amended in 2004. The inflation target represents the overriding monetary policy objective set by the Government after coordinating actions with Bank Indonesia. The Government has set the inflation target for 2013 at 4.5±1%.	CPI	The determination of the inflation target considers the trade-off with economic growth in the effort to improve the living standards of the population. The setting of the intermediate targets is consistent with the desire to achieve a medium to long term inflation rate of 3% so that Indonesia can remain competitive with other Asian countries.
Chile	The focus of the Central Bank of Chile's monetary policy is price stability over time, taking into account the effects this policy has on economic activity and employment in the short and medium terms. Since 2007, the inflation target has been defined as a 3% with a tolerance range of ± 1%, which must be met permanently over a medium-term horizon of two years.	CPI	Monetary policy can also play a role in stabilizing output over the short term, as long as it is consistent with meeting the inflation target in the medium term.
[#]: Excluding raw food and energy prices from headline inflation.			

Source: Macroeconomic and Monetary Developments Mid-term Review 2007-08, Websites of respective Central Banks