The fight against inflation: a measure of our institutional development[1]

I thank the Tata Institute of Fundamental Research for inviting me to give this Foundation Day lecture. I have always seen TIFR with awe from afar. Some explanation is in order. My roommate in my first year at MIT was Dr. Renganathan Iyer, who is one of the smartest mathematicians I know – he used to help me understand my tutorials in real analysis. And he never missed an occasion to tell me how much smarter everyone else at TIFR was. Perhaps Renga was being modest, but I half expected on coming here today to see everyone with gigantic heads housing enormous brains. It is a relief to find that, outwardly, you all look normal. Seriously, however, I think the continuing success of TIFR suggests to us that when India wants to set up world class institutions, it can. While the Institute was fortunate to have a visionary like Dr. Homi Bhabha as its founding director, the institution has been built by the collective efforts of dedicated researchers like you all. Congratulations on a job well done!

In my speech today, I thought I would describe our efforts to build a different kind of institution, not one that delves into the deepest realms of outer space or into the tiniest constituents of an atom, but one that attempts to control something that affects your daily life; inflation. There are parallels between the institution building you have done, and what we are setting up to control inflation, though clearly our efforts are much less tied to investigating the very fabric of the universe and more towards influencing human behavior. Ultimately, both require a fundamental change in mindset.

The Costs of Inflation

High inflation has been with us in India for the last four decades. Most recently, we have experienced an average of more than 9 percent inflation between 2006 and 2013.

What are the costs of having high inflation? Clearly, everyone understands the costs of hyper-inflation, when prices are rising every minute. Money is then a hot potato that no one wants to hold, with people rushing straight from the bank to the shops to buy goods in case their money loses value along the way. As people lose faith in money, barter of goods for goods or services becomes the norm, making transacting significantly more difficult; How much of a physics lecture would you have to pay a taxi driver to drive you to Bandra; moreover would the taxi driver accept a physics lecture in payment; perhaps you would have to lecture a student, and get the student to sing to the taxi driver…you get the point, transacting becomes difficult as hyperinflation renders money worthless.

Hyperinflation also has redistributive effects, destroying the middle class' savings held in bonds and deposits. The horrors of hyperinflation in Austria and Germany in the 1920s still make scary reading.

So clearly, no one wants hyperinflation. But what if inflation were only 15 percent per year? Haven't countries grown fast over a period of time despite high inflation? The answer is yes, but perhaps they could have grown faster with low inflation.[2] After all, the variability of inflation increases with its level, as does the dispersion of prices from their fundamental value in the economy. This makes price signals more confusing – is the price of my widget going up because of high demand or because of high generalized inflation? In the former case, I can sell more if I produce more, in the latter case I will be left with unsold inventory. Production and investment therefore become more risky.

[1] Foundation Day Lecture of Dr. Raghuram G. Rajan, Governor, Reserve Bank of India, at Tata Institute of Fundamental Research, June 20, 2016, Mumbai.

[2] In fact, in a seminal paper, Fischer (1993) presents cross-country evidence to show that growth is negatively associated with inflation, and the causality runs from inflation to growth.

Moreover, high and variable inflation causes lenders to demand a higher fixed interest rate to compensate for the risk that inflation will move around (the so-called inflation risk premium), thus raising the cost of finance. The long term nominal (and real) interest rates savers require rises, thus making some long-duration projects prohibitively costly.

These effects kick in only when inflation is noticeably high. So it is legitimate to ask, "At what threshold level of inflation does it start hurting growth?" Unfortunately, this question is hard to answer – developing countries typically have higher inflation, and developing countries also have higher growth. So one might well find a positive correlation between inflation and growth, though this does not mean more inflation causes more growth. For this reason, the literature on estimating threshold effects beyond which inflation hurts growth is both vast as well as inconclusive. Most studies find that double digit inflation is harmful for growth but are fuzzier about where in the single digits the precise threshold lies.[3]

The Inflation Target

Nevertheless, given the limited evidence, why do most countries set their inflation goal in the low single digits – 2 to 5 percent rather than 7 to 10 percent? Three reasons come to mind. First, even if inflation is at a moderate level that does not hurt overall growth, the consequences of inflation are not evenly distributed. While higher inflation might help a rich, highly indebted, industrialist because his debt comes down relative to sales revenues, it hurts the poor daily wage worker, whose wage is not indexed to inflation.[4] Second, higher inflation is more variable. This raises the chance of breaching any given range around the target if it is set at a higher level. To the extent that a higher target is closer to the threshold, this makes it more likely the country will exceed the threshold and experience lower growth. Third, inflation could feed on itself at higher levels – the higher the target, the more chances of entering regions where inflation spirals upwards.

The received wisdom in monetary economics today is therefore that a central bank serves the economy and the cause of growth best by keeping inflation low and stable around the target it is given by the government. This contrasts with the earlier prevailing view in economics that by pumping up demand through dramatic interest rate cuts, the central bank could generate sustained growth, albeit with some inflation. That view proved hopelessly optimistic about the powers of the central bank.

There is indeed a short run trade-off between inflation and growth. In layman's terms, if the central bank cuts the interest rate by 100 basis points today, and banks pass it on, then demand will pick up and we could get stronger growth for a while, especially if economic players are surprised. The stock market may shoot up for a few days. But you can fool all of the people only some of the time. If the economy is producing at potential, we would quickly see shortages and a sharp rise in inflation. People will also start expecting the central bank to disregard inflation (that is, be hopelessly dovish according to the bird analogies that abound) and embed high inflationary expectations into their decisions, including their demand for higher wages. If contrary to expectations, the central bank is

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[3] For example, Bruno and Easterly (1995) suggest 40 percent as a danger point, beyond which increases in inflation are very likely to lead to a growth crisis. In contrast, Khan and Senhadji (2000) estimate that the threshold above which inflation significantly slows growth is 1-3 percent for industrial countries and 7-11 percent for developing countries.

[4] According to Easterly and Fischer (2001), "a growing body of literature on balance—but not unanimously—tends to support the view that inflation is a cruel tax".

committed to keeping inflation under control, it may then be forced to raise interest rates substantially to offset that temporary growth. The boom and bust will not be good for the economy, and average growth may be lower than if the cut had not taken place. This is why modern economics also says there is no long run trade-off between growth and inflation – the best way for a central bank to ensure sustainable growth is to keep demand close to potential supply so that inflation remains moderate, and the other factors that drive growth, such as good governance, can take center stage.[5]

Put differently, when people say “Inflation is low, you can now turn to stimulating growth”, they really do not understand that these are two sides of the same coin. The RBI always sets the policy rate as low as it can, consistent with meeting its inflation objective. Indeed, the fact that inflation is fairly close to the upper bound of our target zone today suggests we have not been overly hawkish, and were wise to disregard advice in the past to cut more deeply. If a critic believes interest rates are excessively high, he either has to argue the government-set inflation target should be higher than it is today, or that the RBI is excessively pessimistic about the path of future inflation. He cannot have it both ways, want lower inflation as well as lower policy rates.

At the same time, the RBI does not focus on inflation to the exclusion of growth. If inflation rises sharply, for instance, because of a sharp rise in the price of oil, it would not be sensible for a central bank to bring inflation within its target band immediately by raising interest rates so high as to kill all economic activity. Instead, it makes sense to bring inflation back under control over the medium term, that is, the next two years or so, by raising rates steadily to the point where the bank thinks it would be enough to bring inflation back within the target range. Let me emphasize that this is not a prediction of either the path of oil prices or a forecast of our monetary actions, lest I read in the paper tomorrow “RBI to raise rates”. More generally, the extended glide path over which we are bringing inflation in check appropriately balances inflation and the need for reasonable growth.

Arguments against what we are doing

There are many who believe we are totally misguided in our actions. Let me focus on four criticisms. First, we focus on the wrong index of inflation. Second, we have killed private investment by keeping rates too high. Somewhat contradictorily, we are also hurting the pensioner by cutting rates too sharply. Third, monetary policy has no effects on inflation when the economy is supply constrained, so we should abandon our attempt to control it. Fourth, the central bank has little control over inflation when government spending dominates (what in the jargon is called “fiscal dominance”).

The Wrong Index

Historically, the RBI targeted a variety of indicators, putting a lot of weight on the Wholesale Price Inflation (WPI). Theoretically, reliance on WPI has two problems. First, what the common citizen experiences is retail inflation, that is, Consumer Price Inflation (CPI). Since monetary policy “works” by containing the public’s inflation expectations and thus wage demands, Consumer Price Inflation is what matters. Second, WPI contains a lot of traded manufactured goods and commodity inputs in the basket, whose price is determined internationally. A low WPI could result from low international

[5] I am being a bit loose here. The short run tradeoff works because economic actors can be surprised by unexpected loosening, and the surprise can have positive growth effects. In the long run, the central bank loses its power to surprise, and the public embeds its correct forecast of how much inflation the central bank will create into all nominal variables such as interest rates. To the extent that high inflation is harmful for growth and welfare, a central bank that continuously tries to give short run positive surprises will entrench long run high inflation, which will be bad for growth.

inflation, while domestic components of inflation such as education and healthcare services as well as retail margins and non-traded food are inflating merrily to push up CPI. By focusing on WPI, we could be deluded into thinking we control inflation, even though it stems largely from actions of central banks elsewhere. In doing so we neglect CPI which is what matters to our common man, and is more the consequence of domestic monetary policy.

The Effective Real Interest Rate, Investments, and Savings

Of course, one reason critics may advocate a focus on WPI is because it is low today, and thus would mean low policy rates. This is short-sighted reasoning for when commodity prices and global inflation picks up, WPI could well exceed CPI. There is, however, a more subtle argument; the real interest rate is the difference between the interest rate a borrower pays and inflation – it is the true cost of borrowing in terms of goods like widgets or dosas. If policy interest rates are set to control CPI, they may be too high for manufacturers who see their product prices appreciating only at the WPI rate. I am sympathetic to the argument, but I also think the concern is overblown. Even if manufacturers do not have much pricing power because of global competition, their commodity suppliers have even less. So a metal producer benefits from the fall in coal and ore prices, even though they may not get as high a realization on metal sales as in the past. The true measure of inflation for them is the inflation in their profits, which is likely significantly greater than suggested by WPI.

A second error that is made is to attribute all components of the interest rate paid by the borrower to monetary policy. For heavily indebted borrowers, however, a large component of the interest rate they pay is the credit risk premium banks charge for the risk they may not get repaid. This credit risk premium is largely independent of where the RBI sets its policy rate.

So when someone berates us because heavily indebted industrialists borrow at 14% interest with WPI at 0.5%, they make two important errors in saying the real interest rate is 13.5%. First, 7.5% is the credit spread, and would not be significantly lower if we cut the policy rate (at 6.5% today) by another 100 basis points. Second, the inflation that matters to the industrialist is not the 0.5% at which their output prices are inflating, but the 4% at which their profits are inflating (because costs are falling at 5% annually). The real risk free interest rate they experience is 2.5%, a little higher than elsewhere in the world, but not the most significant factor standing in the way of investment. Far more useful in lowering borrowing rates is to improve lending institutions and borrower behavior to bring down the credit risk premium, than to try and push the RBI to lower rates unduly.

The policy rate in effect plays a balancing act. As important as real borrowing rates for the manufacturer are real deposit rates for the saver. In the last decade, savers have experienced negative real rates over extended periods as CPI has exceeded deposit interest rates. This means that whatever interest they get has been more than wiped out by the erosion in their principal's purchasing power due to inflation. Savers intuitively understand this, and had been shifting to investing in real assets like gold and real estate, and away from financial assets like deposits. This meant that India needed to borrow from abroad to fund investment, which led to a growing unsustainable current account deficit.

In recent years, our fight against inflation also meant the policy rate came down only when we thought depositors could expect a reasonable positive real return on their financial savings. This has helped increase household financial savings relative to their savings in real assets, and helped bring down the current account deficit. At the same time, I do get a lot of heart-rending letters from pensioners complaining about the cut in deposit rates. The truth is they are better off now than in the past, as I tried to explain in a previous lecture, but I can understand why they are upset when they see their interest income diminishing.

The bottom line is that in controlling inflation, monetary policy makers effectively end up balancing the interests of both investors and savers over the business cycle. At one of my talks, an industrialist clamored for a 4% rate on his borrowing. When I asked him if he would deposit at that rate in a safe bank, leave alone invest in one of his risky friends, he said “No!” Nevertheless, he insisted on our cutting rates significantly. Unfortunately, policy makers do not have the luxury of inconsistency.

Supply Constraints

Food inflation has contributed significantly to CPI inflation, but so has inflation in services like education and healthcare. Some argue, rightly, that it is hard for RBI to directly control food demand through monetary policy. Then they proceed, incorrectly, to say we should not bother about controlling CPI inflation. The reality is that while it is hard for us to control food demand, especially of essential foods, and only the government can influence food supply through effective management, we can control demand for other, more discretionary, items in the consumption basket through tighter monetary policy. To prevent sustained food inflation from becoming generalized inflation through higher wage increases, we have to reduce inflation in other items. Indeed, overall headline inflation may have stayed below 6 percent recently even in periods of high food inflation, precisely because other components of the CPI basket such as “clothing and footwear” are inflating more slowly.

Fiscal Dominance

Finally, one reason the RBI was historically reluctant to lock itself into an inflation-focused framework is because it feared government over-spending would make its task impossible. The possibility of fiscal dominance, however, only means that given the inflation objective set by the government, both the government and the RBI have a role to play. If the government overspends, the central bank has to compensate with tighter policy to achieve the inflation objective. So long as this is commonly understood, an inflation-focused framework means better coordination between the government and the central bank as they go towards the common goal of macro stability. I certainly believe that the responsible recent budget did create room for the RBI to ease in April.

Pragmatic Inflation Focus

As you will understand from all that I have been saying, monetary policy under an inflation focused framework tries to balance various interests as we bring inflation under control. In doing so, we have to have a pragmatic rather than doctrinaire mindset. For example, emerging markets can experience significant capital inflows that can affect exchange rate volatility as well as financial stability. A doctrinaire mindset would adopt a hands-off approach, while the pragmatic mindset would permit intervention to reduce volatility and instability. Nevertheless, the pragmatic mind would also recognize that the best way to obtain exchange rate stability is to bring inflation down to a level commensurate with global inflation.

Similarly, while financial stability considerations are not explicitly in the RBI’s objectives, they make their way in because the RBI has to keep growth in mind while controlling inflation. So if the RBI’s monetary policies are contributing to a credit or asset price bubble that could lead to a systemic meltdown and growth collapse, the RBI will have to resort to corrective monetary policy if macro-prudential policy alternatives are likely to prove ineffective.

The Transition to Low Inflation

The period when a high inflation economy moves to low inflation is never an easy one. After years of high inflation, the public's expectations of inflation have been slow to adjust downwards. As a result, they have been less willing to adjust their interest expectations downwards. Household financial savings are increasing rapidly as a fraction of overall household savings, but not yet significantly as a fraction of GDP.[6] Some frictions in the interest rate setting market do not also help. Even while policy rates are down, the rates paid by the government on small savings are significantly higher than bank deposit rates, as are the effective rates on tax free bonds. I am glad the government has decided to link the rates on small savings to government bond rates, but these rates will continuously have to be examined to ensure they do not form a high floor below which banks cannot cut deposit rates. All in all, bank lending rates have moved down, but not commensurate with policy rate cuts.

The wrong thing to do at such times is to change course. As soon as economic policy becomes painful, clever economists always suggest new unorthodox painless pathways. This is not a problem specific to emerging markets, but becomes especially acute since every emerging market thinks it is unique, and the laws of economics operate differently here. In India, at least we have been consistent. Flipping through a book of cartoons by that great economist, RK Laxman, I found one that indicated the solution for every ill in 1997 when the cartoon was published, as now, is for the RBI to cut interest rates by a hundred basis points. Arguments change, but clever solutions do not.

Decades of studying macroeconomic policy tells me to be very wary of economists who say you can have it all if only you try something out of the box. Argentina, Brazil, and Venezuela tried unorthodox policies with depressingly orthodox consequences. Rather than experiment with macro-policy, which brings macro risks that our unprotected poor can ill afford, better to be unorthodox on microeconomic policy such as those that define the business and banking environment. Not only do we have less chance of doing damage if we go wrong, but innovative policy may open new paths around old bottlenecks. Specifically, on its part the RBI has been adopting more liberal attitudes towards bank licensing, towards financial inclusion, and towards payment technologies and institutions in order to foster growth.

Institution Building

Let me return to institution building. We had gotten used to decades of moderate to high inflation, with industrialists and governments paying negative real interest rates and the burden of the hidden inflation tax falling on the middle class saver and the poor. What is happening today is truly revolutionary – we are abandoning the ways of the past that benefited the few at the expense of the many. As we move towards embedding institutions that result in sustained low inflation and positive real interest rates, this requires all constituencies to make adjustments. For example, if industrialists want significantly lower rates, they have to support efforts to improve loan recovery so that banks and bond markets feel comfortable with low credit spreads. The central and state governments have

[6] Data from household surveys also suggest that household financial savings are moving up. For example, two recent financial inclusion surveys for selected states in India - Financial Inclusion Insights survey conducted by InterMedia and the FinScope survey implemented by the Small Industries Development Bank of India (SIDBI) - suggest that among individuals "who have a bank account", the fraction who saved through bank deposits increased from 60% in 2013 to 98% in 2015. Of those who "save money", the fraction saving through a bank increased from 67% in 2013 to 93% in 2015. Of those who "save money", the fraction "saving at home" has declined dramatically from 90% in 2014 to 6% in 2015.

to continue on the path of fiscal consolidation so that they borrow less and thus spend less on interest payments. Households will have to adjust to lower nominal rates, but must recognize that higher real rates make their savings more productive. They will find it worthwhile to save more to finance the enormous investment needs of the country.

Adjustment is difficult and painful in the short run. We must not get diverted as we build the institutions necessary to secure a low inflation future, especially because we seem to be making headway. The Government has taken the momentous step of both setting a CPI based inflation objective for the RBI as well as a framework for setting up an independent monetary policy committee. In the days ahead, a new governor, as well as the members of the committee will be picked. I am sure they will internalize the frameworks and institutions that have been set up, and should produce a low inflation future for India.

The rewards will be many. Our currency has been stable as investors have gained confidence in our monetary policy goals, and this stability will only improve as we meet our inflation goals. Foreign capital inflows will be more reliable and increase in the longer maturity buckets, including in rupee investments. This will expand the pool of capital available for our banks and corporations. The government will be able to borrow at low rates, and will be able to extend the maturity of its debt. The poor will not suffer disproportionately due to bouts of sharp inflation, and the middle class will not see its savings eroded. All this awaits us as we stay the course. Thank you very much for your patience in listening to me.

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