

Postgraduate Budget Speech Competition 2009

Inflation Targeting in South Africa: Panda, not Python

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Executive Summary

An overview of the theory and operating procedure of, and alternatives to, the SARB's policy of inflation targeting. Inflation targeting has been correlated with economic tranquility and moderate growth in South Africa yet still criticized as being an overly constrictive policy unsuitable for a developing nation. The impotence of the domestic interest rate to affect certain components of the targeted price bundle suggest an introduction of Core inflation targeting as an intermediate goal of the Reserve Bank. Both Exchange rate targeting and a return to an eclectic monetary policy are feasible alternatives but are unlikely to deliver significant benefits given the present macroeconomic zeitgeist.

An introduction to South Africa's present monetary regime

The South African Reserve Bank (SARB) implemented a policy of inflation targeting in 2000. Inflation targeting is simple to understand: the Reserve Bank announces a single target - the inflation rate for the South African economy and uses a single tool - the short term interest (repo) rate to steer the economy towards achieving the target. As an example, at the time of writing the inflation rate was above the Reserve Bank's target band of 3-6%, and as a result the Bank maintained a high repo rate. Commercial banks, being themselves borrowers (*repurchase*, hence the abbreviation *repo*) from the Reserve Bank, would pass the higher rate on to their corporate and individual clients. Businesses facing a higher interest rate would commit to fewer investment projects, and consumers would choose to consume less on credit. These effects, part of what is called the monetary transmission mechanism, would cause aggregate demand in the economy to fall. Producers in a competitive economy would have no choice but to lower prices given the deficient demand - thus fulfilling the Reserve Bank's goal of falling prices - a lower inflation rate.



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This process is inherently 'painful' however – a euphemism for the decrease in employment that accompanies the reduction in demand, prices and output. That a Central Bank and indeed a society would tolerate this implies a deal of concurrence (Lewis & Mizen, 2000) with the *monetarist* school of thought. Strict monetarists argue that money is *neutral* in the long run – that over long periods of time, the quantity of money in an economy will have no impact on real economic variables like output and employment, but it will have a proportional effect on the price level. Milton Friedman described the doctrine best: "Inflation is always and everywhere a monetary phenomenon."

While money may be neutral in the long run, the effects of high inflation (which according to Friedman would have to be caused by a loose monetary policy) are well known. High inflation means that consumers' purchasing power for a given wage declines, that scarce economic resources are diverted to the financial sector for the added administrative demands and speculative opportunities caused by the rising price level and that taxation policies become distorted. Inflation is particularly pernicious for the poor as they often have less bargaining power with regards to their wages, or are reliant on state grants or pensions that do not perfectly track the price level. Importantly, inflation erodes the value of firm and household savings; disincentivising savings reduces the funds available for investment. South Africans have to look no farther than their northern border with Zimbabwe to see the ravages that high inflation can cause to society. These observations, and strong cross-country evidence that economies with very high inflation tend to grow slowly are seen as justification for an inflation-targeting regime.

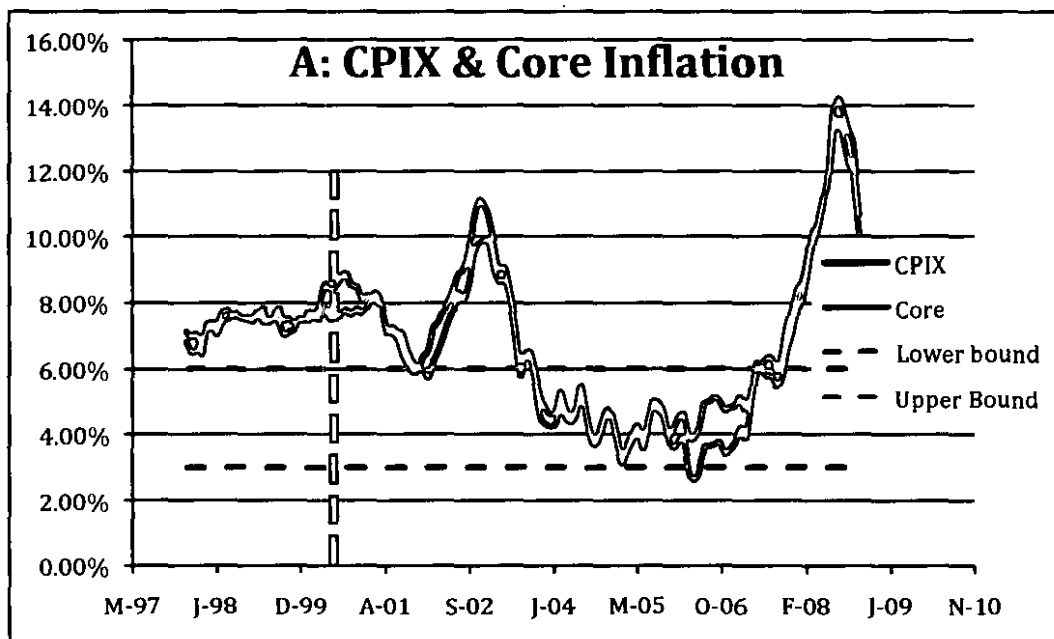
Section 224 of the national constitution acknowledges the cost of inflation: "The primary objective of the South African Reserve Bank is to protect the value of the currency in the interest of balanced and sustainable economic growth in the Republic." The constitution is quite unambiguous here: the role of the Reserve Bank is not to lead economic growth but to create the appropriate environment for it by maintaining price stability. This is in line with the logic behind market economies: that private enterprise and foreign investment will flourish in the absence of volatility and uncertainty. The Reserve Bank takes this mindset one

step further and states on the front page of its website, its sole mission as “the achievement and maintenance of price stability” (SARB, 2009), ostensibly to the exclusion of all else.

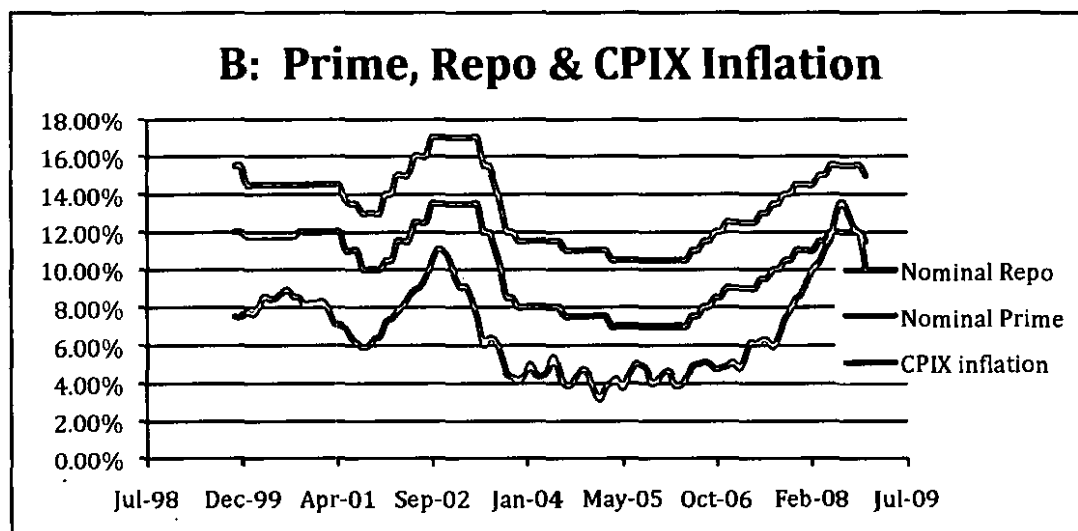
Evidence, Results and Controversy

In a recent presentation to the Witwatersrand Business School, the Reserve Bank’s Chief Economist Dr Monde Mnyande (2009) cites a paper by Brian Kahn (2008) which found that the present period of inflation targeting, compared to the period of eclectic monetary policy in the ‘90s, had not only lower inflation (6.5%, down from 10,8%) but lower inflation volatility as well. Output growth was also significantly higher (4.25%, up from an anemic 1.4%) and less volatile. The leap from the *correlation* between inflation targeting and these positive results and actual *causation* is dubious however. South Africa’s burgeoning imports from low-cost eastern producers such as China and low world commodity prices for food and energy contributed to low domestic prices, and South Africa’s business cycle and exports tracked the global boom 2001-7, which contributed to GDP growth.

Graph A shows how the target of 3-6% CPIX inflation was achieved in just three years after the implementation of inflation targeting:



The period of in-band inflation was associated with relatively constant real interest rates, as can be seen in Graph B.

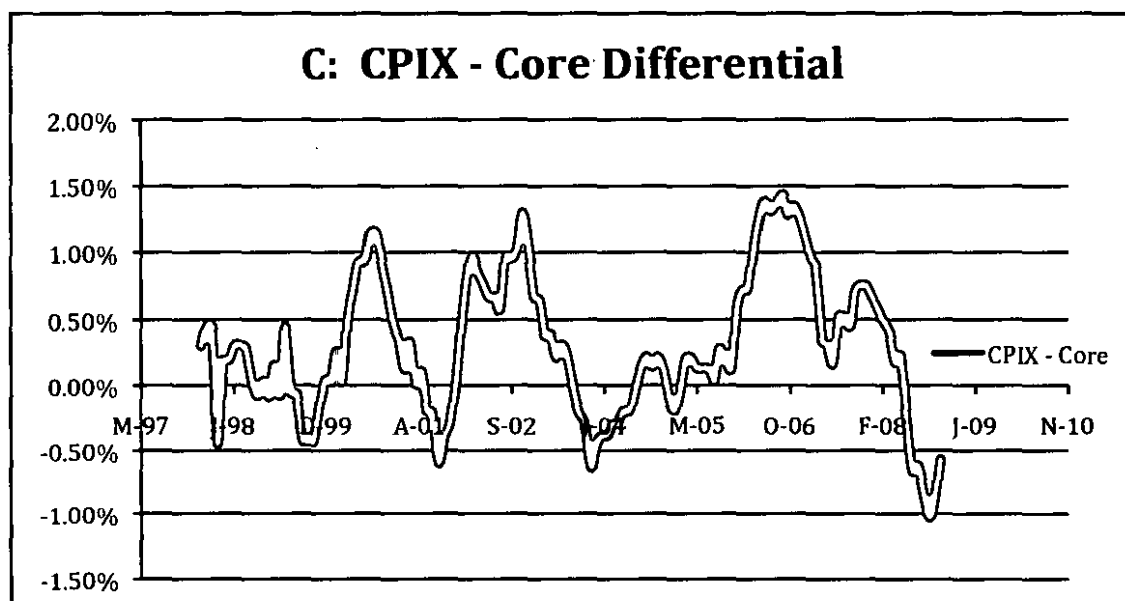


Inflation broke out of the range in mid 2007 and Interest rates rose in response to inflation.

The composition of the price index that the Reserve Bank uses as its inflation target has been controversial. In his 2000 statement detailing the framework of inflation targeting that the Bank would implement, governor Tito Mboweni argued that the numerical inflation target should be the percentage change in the Consumer Price Index excluding mortgage interest payments (CPIX). Mr. Mboweni noted that while the CPIX includes prices that are not affected by domestic policies, like food and oil, the CPIX was nevertheless the superior index because it best represents the true cost of living and it is the easiest and most credible statistic for the public to understand (Mboweni, 2000).

The boom in food, metal and other commodity prices to the end of 2008, and especially high oil prices helped send CPIX inflation into the double-digit range. Since the SARB targets CPIX it raised the repo rate again and again, even though most of the increase in inflation was from outside shocks it had zero control over. As an example South Africa, being a relatively small economy, has little influence over the world price of oil even though oil is a vital input in virtually every industry. South Africa was, at the time *importing inflation*.

Core inflation is the CPIX measure with food and energy prices removed. Graph C shows how foreign supply shocks cause CPIX inflation to outpace Core inflation:



Examples of supply shocks are the late 2001 depreciation of the Rand and the 2006-8 booms in commodity (especially oil) prices. Back on graph B the reserve bank's response to the foreign shocks – to raise interest rates – can clearly be seen.

The SARB argued that their increasing of the interest rate was necessary to dampen the second round effects of the shock in import prices and that if "[they] were seen to be abrogating their responsibilities, inflation expectations would get out of hand... we would experience an inflation spiral." (Mboweni, 2008)

South Africa is not the only inflation-targeting nation to face this problem. In a recent and critical essay "The Failure of Inflation Targeting", Nobel Laureate Joseph Stiglitz (2008) argues "there is no reason to expect that *regardless of the source of inflation*, the best response is to increase interest rates" and that developing nations will be hit the hardest because "[oil and food] represent a larger share of [their] household budget than in rich countries."

The textbook response to a shock increase in input prices to an economy is to run an expansionary monetary policy, which would lower interest rates, which

would raise investment and thus aggregate demand, creating a soft landing for output and employment (for an example see Blanchard, 2006, p. 320). That the South African Reserve Bank *increases* interest rates given an increase in inflation caused by foreign shocks is an example of pro-cyclical monetary policy and decreases output and employment further. Finally on this line of thought, since imported inflation does not respond to the domestic interest rate, for the Reserve Bank to achieve a decrease in inflation domestic prices that do respond to changes in the interest rate would have to decline by a disproportionately large amount, all else equal.

Bernanke et al (1999, p. 292) list New Zealand as an inflation-targeting monetary regime that has been successful in implementing accommodative short run monetary policy - a so-called escape clause - in the face of external supply shocks. The authors state that these deviations are beneficial if "... they can be plausibly rationalized by the public and ... they do not threaten long-run inflation goals" (Bernanke et al, 1999). Stan du Plessis (2009) argues that while the Reserve Bank has not invoked an escape clause, it does from time to time invoke an 'explanation' clause where it details how a particular policy stance would need to be adjusted to "ensure the long run consistency between forecasted inflation and the target range" (du Plessis, 2009).

Alternatives to Inflation Targeting (1): Exchange Rate Targeting

An exchange rate targeting monetary regime, like inflation targeting, is a simple concept. If Reserve Bank wished to maintain a fixed exchange rate with the rest of the world, say 15 Rands per Euro to make South African exports artificially cheap, the Reserve Bank would announce its willingness to exchange any quantity of euro for rand at the given rate, and vice versa. From the interest parity condition¹ South Africa would then have to maintain the exact same interest rates as the European Monetary Authority. The low value of the rand would create excess demand for South African goods and services, forcing the

¹ $R_{SA} = R_{EU} + (E^e - E)/E$. Under fixed exchange rates the expected exchange rate is equal to the actual rate so in this example $(15 - 15)/15 = 0$ so $R_{SA} = R_{EU}$.

Reserve Bank to accumulate a stock of foreign currency by creating new rand deposits and selling them for euro.

A fixed and low exchange rate can be thought of as an industrial policy as much as a monetary policy. Fixed rates would bring stability (in contrast to the Rand's random walk as a free floating currency) and certainty, promoting trade. A low exchange rate could spur industrial development by making exports competitive on the world market and forcing imports to be substituted for local products. Famously, the Peoples' Republic of China pegged their currency at a cheaper and cheaper rate to the U. S. dollar as part of their opening to the world from 1980 – 2005.

While the idea of South Africa having interest rates as low as that of German *bundesbank* is attractive, exchange rate targeting has its fair share of its own problems. A departure from inflation targeting could undermine international confidence in South Africa and require our assets to offer a risk premium on top of our interest rates – erasing some gains. It is not clear whether South African firms would thrive under artificially low exchange rates or would instead be incentivized to stagnate under protectionism. Much of South Africa's capital goods are imported, so a low rate would stifle capital accumulation. An excessively low fixed rate (and thus high demand for rands) would cause the domestic money supply to increase dramatically (as the central bank would have to create money), stoking inflation. Importantly, fixed exchange rates would make the Reserve Bank's monetary policy tools powerless (Krugman & Obstfeld, 2006) to affect South Africa's money supply or output. If South Africa were to experience a shock, such as the reduction in global demand caused by the present financial crisis, the Reserve Bank could not increase the domestic money supply to stimulate the economy as doing so would lower the interest rate and cause investors to sell rand, restoring the level of money supply.

Alternatives to Inflation Targeting (2): Back to Eclectic Monetary Policy

Of all the inflation targeting economies in the world, South Africa is by far and away the one with the highest unemployment; depending on your preferred definition, unemployment is somewhere around 25%. Inflation targeters like

New Zealand or Brazil or South Korea would regard this situation as a societal crisis, if it were to happen in their country, especially given South Africa's lack of comprehensive social security.

Lewis & Mizen (2000, p. 416) quote Stanley Fisher: "There is no favorable long-run trade-off between inflation and unemployment, but there is a short run Phillips curve tradeoff." The authors go on to say "Denial of this tradeoff will get central banks into trouble. The trade-off exists." Given the plight of such a large proportion of the South African population, it is a wonder why there have not been more popular (or populist) calls to accept a more employment-focused monetary policy with the trade-off to accept lower growth in future for relief now.

Such a situation would seem to call for the Reserve Bank to return to the eclectic monetary policy it followed before the adoption of inflation targeting. The word *eclectic* – relating to derive ideas and style from a broad range of sources – is particularly evocative of a Central Bank that targets intermediate goals, such as employment or liquidity, as well as a long-term goal of price stability. One of the simplest versions of such a policy is the *Taylor rule*²: that the interest rate should move positively with both the distance of inflation from its target and the distance of output from its target level.

The biggest problem with such an eclectic monetary policy is that the central bank now has two goals (three if the central bank has a responsibility to prevent liquidity crises), but still only one tool – the interest rate. Not only does the effect of a change in interest rates have opposite effects on inflation and output, but also the two goals operate under different time dimensions – output stabilization moves with the business cycle while price stabilization is long run (Lewis & Mizen, 2000).

South Africa's mass unemployment is often referred to as structural unemployment – caused by a mismatch between the skills of prospective workers and the skills sought by employers, rather than by deficient demand. It

² Mathematically, $i = a(\text{inflation rate} - \text{target rate}) + b(\text{output level} - \text{target level})$

is in situations like these that an expansive monetary policy would be dubbed to be as effective as 'pushing on a string'; that a low interest rate and high money supply cannot revitalize an economy if entrepreneurs do not seize the opportunity or firms cannot find suitably-skilled employees. To the extent this is true this will reduce the elasticity of output to inflation and the interest rate, leaving less of the short run good and the same long run bad.

An eclectic monetary policy could also diminish Reserve Bank's influence over firms and peoples' expectations of inflation. Theoretically, if a Reserve Bank was perfectly credible about its anti-inflationary commitments, it could simply announce that it would take measures to reduce the inflation rate in the future. Workers and firms would thus lower their expectations about inflation and negotiate wage and price increases at a lower rate. As a result, inflation would decline without the need for protracted unemployment (Blanchard, 2006). Expectations about the Reserve Bank's policies are intrinsically important whatever the monetary system because of the length of the monetary transmission mechanism; there is approximately a two year lag between a change in the money supply and a change in prices, so a good Central Bank has to both make informed decisions based on inflation forecasts, and to be believed by the public that their commitment will hold. A simple numeric inflation target (or band, as is presently the case in South Africa) also provides a convenient focal point for expectations about future inflation.

The best example of a monetary policy that is both eclectic and still very much in control of peoples' expectations about inflation is the United States' Federal Reserve (Fed). The Fed is required by law to target both employment and inflation (*The Economist*, 2009, p. 70) but in practice it targets a low (< 2%) level of inflation over the long term. The anti-inflationary credentials of the Fed, accumulated over decades of being the world's premier Central Bank allow the Fed enviable versatility. The Fed was able to drop American interest rates dramatically in the recession of 1991-3 and later in the decade in '99 without stoking inflationary expectations. The Fed has also lowered interest rates in the aftermath of the current financial crisis, almost to the point where real interest rates (a measure of the 'true' interest rate; approximately the nominal rate less

the inflation rate) approach zero (called a liquidity trap). Whether or not the Fed will again be able to keep inflationary expectations under control remains to be seen. There is little evidence to suggest that the SARB – indeed along with most other Central Banks around the world – has the sufficient clout over inflationary expectations to be as successful an eclectic policy maker as the Fed is.

To close our discussion on eclectic monetary policy, Governor of the Reserve Bank Tito Mboweni's words are worth quoting here:

"[Inflation Targeting] is not a dogma. Take away inflation targeting, and we will still have monetary policy, we will still have the same instruments of monetary policy, and the Bank will still have a constitutional mandate to maintain low inflation ... announcing a target on its own does not guarantee success. It is not a magic wand."

In Closing: Tranquility or Stagnation, Panda or Python

South Africa's recent relative economic tranquility, and moderate economic growth in the present decade have coincided with the adoption of an inflation-targeting monetary regime. The causality is probable, but as of yet unproven. A casual comparison between South Africa's recent low-but-persistent growth experience and that of the Asian tigers' and China's sustained levels of high growth might suggest that the experience was one characterized by stagnation, not tranquility. The Asian nations growth, which happened in different stages for each nation between approximately 1975-95, was invariably propped up by either fixed and low exchange rates or loose monetary policy. Naturally, inflation in these economies was relatively high and led to the occasional crisis, but the policies left a legacy of a wealthier economy in each case.

That casual comparison is not applicable today. The economic orthodoxy of the time is that inflation targeting is best for long term growth, and even though the concept is not yet twenty years old there is a growing amount of evidence in the economic literature that inflation targeters are better able to affect and anchor inflationary expectations, with long term effects superior to that of eclectic monetary policy or exchange rate intervention. A switch away from inflation

targeting could add a risk premium to South African assets, and decrease foreign investment, as overseas investors would likely view this move as imprudent.

There is a strong case to either switch the inflation target from the CPIX index to the Core index, or to exercise the 'escape clause' when faced with external shocks. Stiglitz's words are worth repeating: "There is no reason to expect that, regardless of the source of inflation, the best response is to raise interest rates". It is important to control the second-round effects (as in higher oil prices eventually make for higher transportation prices) of shocks, sure, and to provide a meaningful and easy-to-understand index to the public as an inflation target, but Core tracks these second round effects and could be communicated to the public and business if phrased and presented right.

However well founded in economic theory the Reserve Bank's policy may be, they cannot afford to ignore the very real short-term consequences that high interest rates have when attempting to keep inflation in check. This will create political and social pressure if the Reserve Bank fails to communicate the benevolence of its long term strategy, that of pandering not to temporary shocks but to long term growth, and instead appears to be uncompassionate and willing to inflict pain and constrict the economy if that is what its cookbook demands.

There is a strong case to explicitly establish Core inflation as an intermediate goal to be used as a support for a long-term goal of low CPIX inflation as CPIX is better measure of how consumers' true consumption power decreases over time. Targeting core inflation in the short run would require less of an increase in the repo rate given a supply shock and would result in less of an increase in nominal (and real rates) in the interim. Long-term interest rates would similarly be lower when the shock subsides.

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