RULE BASED INTERVENTION TO CURB RUPEE VOLATILITY
(under deregulated domestic banking)

I BACKGROUND

A Reviewing the Midsummer Mayhem

(i) Capital Flows greatly liberalized since 1994.

(ii) Low Federal funds rate since 2002-2005 induced flows to emerging markets.

(iii) Booming economy and rising equity market in turn have amplified inflows.

Against this background, Finance Ministry's decision last year to raise External Commercial Borrowing (ECB) limit led to uncontrollable surge in ECBs, especially in February 2007. Unable to keep sterilizing the inflows to keep call money rate above the reverse repo (policy) floor rate, RBI let the rupee rise.

B Firefighting with Flipflopping

Finance Ministry reactivated External Commercial Borrowing (ECB) limits, RBI hiked Cash Reserve Ratio (CRR) and policy rates, and more FX intervention. Reserves have risen from about $ 200 bn. in end March to about $ 270 bn. now. These three moves in accordance with Economic Advisory Council (EAC) July Dr. rangarajan report recommendation of some combination of (i) Appreciation (ii) Restriction (iii) Intervention with (iv) Sterilization policy. (ARIS, for short)

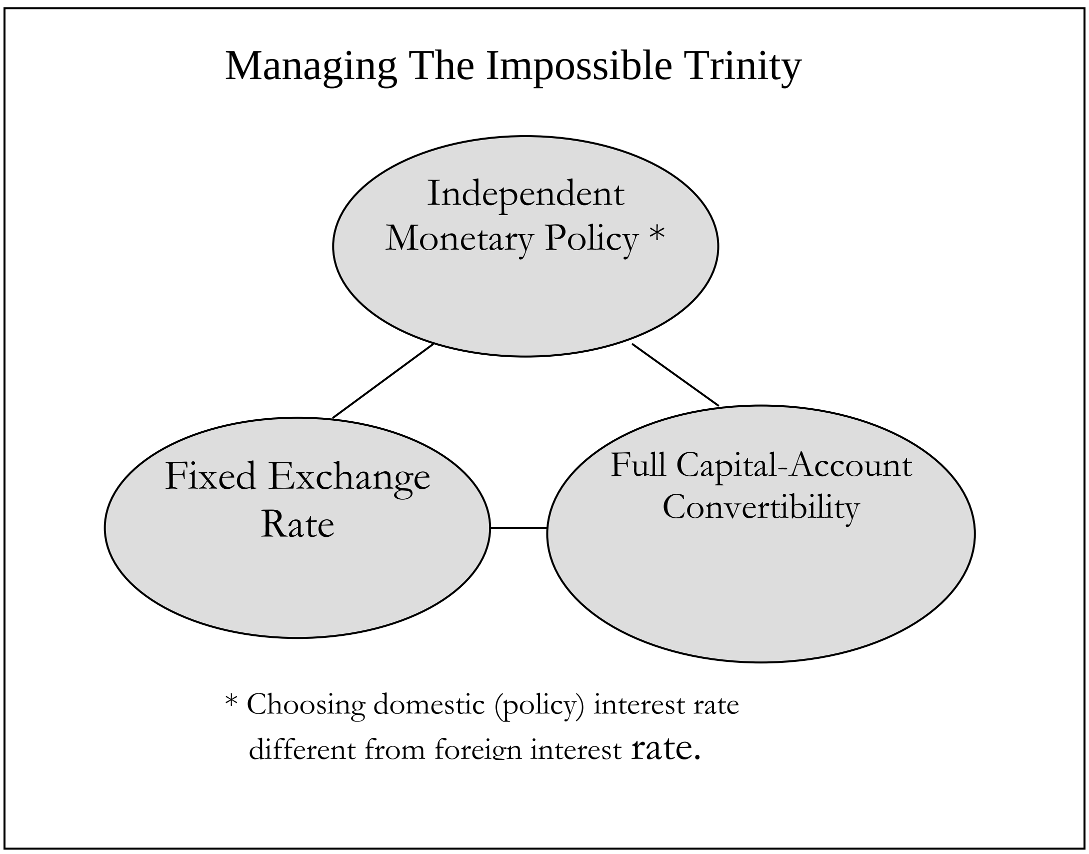
EAC - Restrict debt, not equity inflows (do not want to send the wrong signal).

C. OFFICIAL STANCES ON THE IMPOSSIBLE TRINITY

Taking independent monetary policy as main goal, as of Feb 2007, official stances were as follows:

RBI for Real Effective Exchange Rate (REER) target or Not too Strong Rupee policy with intervention, and curbs on capital inflows to help maintain this.

Finance Ministry for Full CAPAC with full currency futures markets to enable hedging and develop BCD (Bond-Currency-Derivative) nexus. This fitted in smoothly with goal to make Mumbai an International Financial Center.



But when rupee rose sharply, leading to huge discontent, Finance Ministry backed down and allowed some curbs on inflows, plus export sops. But yesterday's paper – Jr. Finance Minister says 'no more curbs on inflows' (BS, Nov 21st)

II PINNING DOWN POLICY POSITIONS

Let us first discuss desirable and feasible policies.

Desirable policy is easy to define e.g ceteris paribus, any point of the trinity.

Feasibility – I distinguish between economically and politically feasible.

Economically feasible is a matter of logic and/or long run constraint.

Politically feasible is a matter of judgement e.g. freeing petrol prices is desirable, and economically feasible whatever the other policies, but politicaly not feasible.

In Table below, I use the term consistency instead of (economic) feasibility to discuss the various views expressed in Business Standard since May 2007.

PERSON/SOURCES	Recommended Policies	Consistency
Shankar Acharya Aug 9th	Some curbs on Inflows and sterilization to achieve REER target or weak rupee. Nothing definite about inflation target	Moderate (in short run)
Rajwade Surjit Bhalla Rajwade Apr 30, ???? Bhalla 12 May Oct 17th …	Strongly for freer inflows in 2000/2006 Committees, now calling for heavy sterilization a la China so that weak rupee Peg or REER target can promote exports. No inflation target, Bhalla denies inflation.	Zero-violating the impossible trinity
Ajay Shah Apr 4th, Oct 17th …	Full convertibility and pure float with forwards, swaps and options for exporters and importers to hedge forex risk and CPI Inflation targeting as RBI's only activity	Full
Vivek Moorthy Far East. Econ. Rev. June 2007, Sept 27th	Strict CPI Inflation targeting main goal of RBI. Moderate inflow curbs, a basically flexible rate with forex intervention to reduce volatility via a random walk band based on last period average. Sterilization hard because of deregulated deposit rates.	Rather high (my opinion!)

*Default reference with only the date is to a Business Standard article.

III My Recommendations

A Underlying Assumptions: In the long run, natural rate hypothesis holds. Central bank cannot control the growth rate, real interest rate, or the real exchange rate. Further, in long run the impossible trinity reduces to a fundamental dilemma: CAPA controls cannot be used to avoid between choosing price level/inflation rate OR nominal exchange rate as final goal. (VM, Bus. Line, Nov 9th 2007)

Underlying View: For a large domestic demand centred economy like India, independent monetary policy and domestic price level is more important than the exchange rate as final goal. Ditto for China, but not necessarily for Hongkong.

B Concrete recommendations (based on FEER June 2007, BS Sept 2007):

1) Intervene based on rules, not by discretion (too risky with huge reserves).

2) Keep + 2% minus 8% band based on last period's average spot rate (or +-5%).

3) Moderately stiff capital controls on debt and equity needed to manage above.

4) Do not introduce large scale currency futures and/or restrict derivatives trading.

5) Tobin type taxes (e.g URR of Chile, Thailand) to reduce short-termism.

C Required or Accompanying Domestic Policies:

Inflation target should be main goal of RBI – a 3 year average of CPI should be kept under 3%. The critique of ‘unstable middle’ and ‘falling peg’ is valid when central bank is not independent and inflation is high , and/or a band is chosen very different from current level (e.g ERM 2.95Dm/Pound in 1990) collapsed in 1992

D Taking a Cue from The Return to Interest Rate Pegging in USA

It was a constant refrain of Milton Friedman that the Federal Reserve should not target interest rates or peg them since a central bank canot control them. These should be fully market determined. It is true that pegging the nominal rate despite rising inflation was unsustainable. But when Fed funds rate was fully freed and Non Borrowed Reserves was the instrument (1980-1982) it was a disaster. Further, when the Fed started declaring its funds target from February 1994, there was no problem. Anouncing the funds target did not make it hard to maintain it. (See Chart from Marcia Stigum book).

Similarly, transparent forex intervention based on rule should work if the underlying domestic macro fundamentals are sound. It needs to be tried.

V Will Reducing Capital Inflows Reduce Growth?

I don't think so. Benefits of capital inflow are two fold.

Quality effect – Exposure to better pratices (of FIIs?) etc. We have obtained this benefit - our mutual funds are well managed. Some capital inflow can ensure this.

Quantity Effect – Main argument for capital inflows is that we need external borrowing to bridge the domestic savings minus investment gap S – I = X – M. This brings us to what I call the Solownomics versus Sotonomics view of growth, as explained in The Mystery of Capital (2000) by Hernando de Soto.

For a Sotonomist, infrastrucure is constrained not by funds, but by doable projects. Based on Sotonomics: make title to land easy, streamlining the land acqusition process (e.g majority voting if 80% or more inhabitants of land to be acquired agree to sell out, others have to), improve governance etc. Then domestic savers will be willing to finance infrastructure without Special Purpose Vehicles SPVs About savings and infrastructure, I had written as follows:

"…The primary reason why CAPAC (for inflows) is seen as desirable in an Indian, or more generally emerging market context, is that foreign capital inflows are thought to be vital to raising sustainable GDP growth…The above view can be questioned at every stage of its reasoning….India has a high private saving rate. there is no dearth of private saving, much of which gets channelled into the unproductive asset of gold….If domestic investors are unwilling to put their savings in infrastructure and similar projects without specific concessions, it may well reflect an accurate perception on their part that the risk adjusted returns are not adequate. Without a well developed legal system and well-functioning property rights, merely attracting foreign capital will not ensure more infrastructure. Without the ability to enforce payment for, say electricity, there is no effective demand. The term 'Transmission and Distribution (T&D) losses in electricity has often been jokingly referred to as Theft & Dacoity Losses. ("Capital-Account Convertibility: How Should we Proceed? VM, in Management Perspectives, IIM Bangalore 25th Year Volume, 1999

The progress of the BMIC Bangalore-Mysore Infrastructure Corridor (BMIC) makes for a good case study about the hurdles to land acquistion versus financing constraint as determinants of infrastructure output and amount of road area built.

To summarize, moderate curbs on capital inflows will not necessarily adversely affect growth, while the benefits via allowing a basically flexible but more stable rupee that responds mainly to the current account are immense.

If controls now have
"Half a chance of half success" (this line is May 14th article courtesy Vikram Seth)
Let us try our hand
At a random walk band.

Thank You – Comments Welcome Now or Later: vivekmoorthy@iimb.ernet.in

9 AUGUST 2007 BANGALORE BUSINESS STANDAR

Midsummer Madness?

A PIECE OF MY MIND / SHANKAR ACHARYA

TABLE 1

INDIA'S SUMMARY BALANCE OF PAYMENTS

(US $billion)	2005/6	2006/7	Change
Current Account (net)	-9.2	-9.6	-0.4
Capital Account (net) :	24.2	46.2	+22.0
of which:			
Foreign Direct Investment	4.7	8.4	+3.7
Portfolio Investment	12.5	7.1	-5.4
External Commercial Borrowing	2.71	16.1	+13.4
Short-term Trade Credit	1.7	3.3	+1.6
External Assistance	1.7	1.8	+0.1
NRI Deposits	2.8	3.9	+1.1
Addition to Reserves2	15.1	36.6	+21.5

Notes:

1. Net of IMD redemptions of $ 5.5 billion.
2. Balance of payments basis (excluding valuation changes).

Source: RBI's "Macroeconomic and Monetary Developments, First Quarter, 2007/8", July 2007.

The Collapse of the Rupee Peg

Capital inflows soared during 2006-07 mainly due to a rise in ECB (external commercial borrowings) limits.

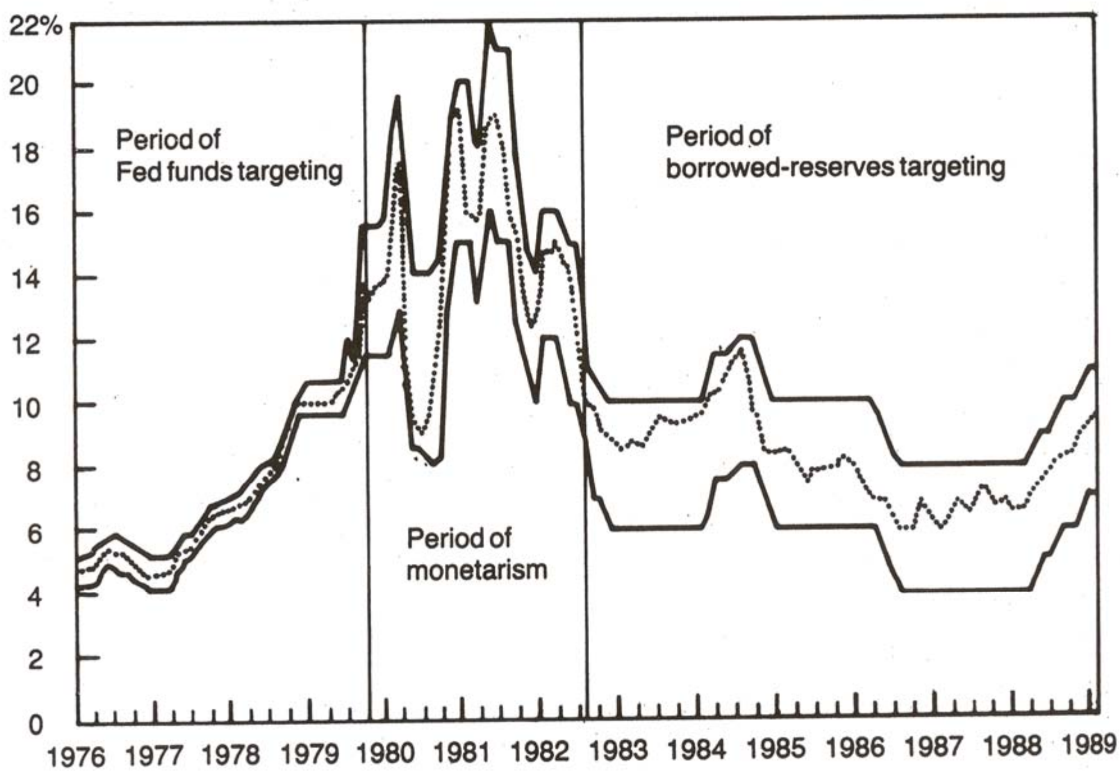
The Ministry of Finance raised the limits against RBI's preference.

In March, RBI lost control over inflows and let the Rupee rise.†

Fiscal Year End	Rs./$	Net Forex Assets Rs bn.	Net RBI Credit to Govt. Rs bn.	Reserves $ bn.	REER Index*
2005	43.76	6128	-180	141.51	101.35
2006	44.61	6730	81	151.62	106.67
2007	43.59	8662	-28	199.18	104.91
May 4 07	40.90	8327	159	204.00	110.33
Sep 21 07	39.87	9395	16	235.89	N. A.

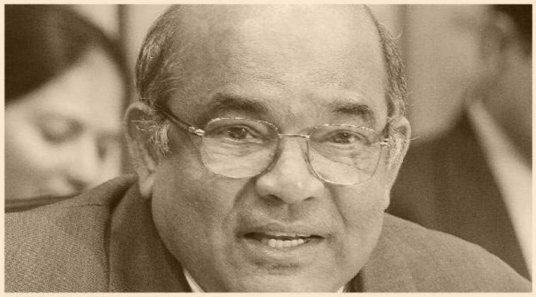
* REER stands for Real Effective Exchange Rate Index (a rise implies stronger Rs.) REER is based on the rupee against a trade-weighted basket of currencies and adjusts for inflation.

Federal funds rate effective versus monitoring range (monthly levels)



How a rupee rise will curb inflation

When the RBI stops buying dollars, the resulting large drop in money and credit growth will lower inflation significantly, says VIVEK MOORTHY



REDDY RECKONER

Fiscal YearEnd	Exchange Rate Rs/$	Rupee Crores: Net Foreign Exchange Assets (NFA)	Rupee Crores: Net Reserve Bank Credit to Govt. (NRCG)	Forex Reserves $ bn
2002 March	48.8	263,969	141,384	54.11
2003 March	47.51	358,244	112,985	76.11
2004 March	43.45	484,413	36,920	112.96
2005 March	43.76	612,790	Minus 17,975	141.51
2006 March	44.61	672,983	8,138	151.62
2007 March	43.59	866,153	Minus 2,802	199.18
2007 May 4	40.90	832,717	15,929	204.00

Notes: NFA is mostly Foreign Currency Assets. Exchange rate is year end. *Source: RBI.*

Should the RBI let the rupee rise to fight inflation, or should it peg the rupee to prevent our exports from getting hit? The debate rages on, with many more joining the fray. This article mainly critiques the view that a rising rupee (when the RBI stops forex intervention) will not significantly lower inflation. Such a view has been expressed by Ajit Ranade, (*Hitting Exports to Curb Inflation is a Bad Idea*, April 19) and also Shankar Acharya, "…the finance ministry (and RBI?) may be giving undue weight to a recently fashionable and (simplistic) view that the appreciation of the rupee helps contain inflation. Actually, in India, it has modest impact at high cost….". (*Exchange Rate Policy*, April 26). This criticism of their views is solely to facilitate constructive policy analysis.

Ajit Ranade states that "the choking impact of a stronger rupee on inflation is itself debatable". He argues that unlike the US, our import basket is such that the pass through from exchange rate changes to inflation is limited. The three largest items are crude oil (33 per cent), gold and gems (14 per cent) and capital goods (17 per cent). "The latter two have an insignificant impact upon inflation". As for the biggest item, crude oil, these are administered prices that can be "… tweaked without reference to the exchange rate simply by reducing import duties ..."

However, such arguments are not applicable now. Some basic macroeconomics is needed to explain why. Inflation is the difference between nominal GDP growth and real GDP growth. If nominal GDP grows at 15 per cent and real GDP at 8 per cent, the difference of 7 per cent is inflation. What determines nominal GDP growth? Basically, broad money and bank credit growth which are influenced by the central bank. Suppose money and credit grow by well above 20 per cent. Allowing for time lags and slippages of a few percentage points, nominal GDP growth will exceed 15 per cent, and inflation will rise and stay above 7 per cent.

Those against a full float have not adequately pushed for curbs on capital inflows

Over the last two fiscal years 2005-06 and 2006-07, the relevant measures of money and credit have been growing too fast. Why? Because to prevent the rupee from rising, the RBI has been printing (reserve) money to buy dollars. Then to control reserve money growth, the RBI has been massively sterilising this dollar inflow by offsetting domestic money market operations that reduce Domestic Credit, called Net Reserve Bank Credit to Government, or NRCG, in India (*see table*).

In the last three years, NRCG has been close to zero or negative. It is unusual for a central bank to have negative NRCG. Despite such 'over sterilisation' in fiscal year 2006-07, Reserve Money grew by 22.4 per cent, the broader money aggregate M3 including bank deposits grew by 20.7 per cent and bank credit grew by 27.6 per cent. For the previous fiscal year 2005-06, the growth rates are respectively 17.2 per cent (Reserve Money), 21.2 per cent (M3) and 30.8 per cent (Bank Credit). Due to an easy money policy reflected in such high growth rates, the largely ignored CPI inflation measures have risen sharply, hurting the poor. The RBI has been failing in its most basic task of controlling inflation.

Calculating the direct cost side impact of the rupee rise on inflation is fallacious. Such calculations ignore the crucial demand side impact of the rupee rise (when the RBI stops buying dollars) on money and credit growth. The cost side approach to inflation would be somewhat valid if the rupee rose solely due to private supply and demand for forex, that is, without any forex intervention to begin with.

However, when the RBI stops 'printing money' to buy dollars, the magnitude of the rupee rise and the share and type of imports lose their importance. Instead the resulting drop in money and credit growth by several percentage points is likely to lower inflation significantly. The RBI lost control of money and credit growth solely due to its rupee pegging policy, as the 80 per cent rise in NFA between fiscal years 2004-2007 (*see table*) indicates.

Policy choices have to be based on the well known impossible trinity. The condition states that a country can choose only two of the three policies below:

- An independent monetary policy, which translates to a domestic interest rate independent of the foreign or world interest rate,
- A fixed exchange rate (in India, a real exchange rate target that allows the rupee to fall gradually), and
- Full capital account convertibility.

Wanting to prevent a sharp rupee rise from hurting exporters is laudable. However, those in favour of some sort of exchange rate peg to support exports have not accepted the overpowering reality, at present, of the impossible trinity. To the best of my knowledge, those against a full float have not preemptively stressed the need for controls on capital inflows. They now seem to suggest that a few controls, when needed, will do the job.

Ranade states that "at the moment, with our relatively closed capital account, it is possible to control interest rates and currency independently." Not so: The rupee is effectively fully convertible on the capital account, at least for inflows. The result of the increase in policy rates by the RBI during over FY 2006-07 has been an uncontrollable surge in external commercial borrowings, especially in February 2007, due to lower interest rates abroad. This is a powerful illustration of the impossible trinity in practice.

Rajwade states that the rupee "has become seriously overvalued" (April 30). Nevertheless, he criticises recent RBI measures to reduce inflows and increase outflows! Ironically, Rajwade in his dissent to last October's Fuller CAC Report, has been arguing for more inflows (in particular, raising the limits on FII purchases of government debt) and continuing curbs on individual outflows. Ranade, also a member of the Fuller CAC Committee, did not express any misgivings about the likely consequences of fuller convertibility upon the rupee's value.

By contrast, for the record, just before Finance Minister Chidambaram set up the first Capital Account Convertibility Committee in his Budget speech on February 28, 1997, I wrote as follows, "….the prevailing exchange regime, in which inflows are allowed, but not outflows by Indians, induces the rupee to rise too much…. The overseas investors can check in any time they like, and they can always leave, while we are just prisoners of our own device" (*Capital Account Convertibility, Part III*, Business Line, Feb 26, 1997).

Ten years later, have controls on inflows even "half a chance of half success?" (a phrase from the acrostic in Vikram Seth's *Two Lives*). Probably not. Nevertheless, a basically flexible exchange rate, with no target or band, coupled with stringent curbs on inflows, and smaller inter-bank position limits (as a natural hedge against volatility) may be worth a try. If the stock market takes a hit as in Thailand in December 2006, so be it. The policy makers must be willing to stick to their guns.

The author is Professor, IIM Bangalore. He can be reached at vivekmoorthy@iimb.ernet.in

The Rise of the Rupee Spurs Policy Debate

by Vivek Moorthy

THE INDIAN RUPEE rose by about 7% against the dollar between the end of March and early May to 40.5 rupees to the dollar after mostly trading in the 43-rupee to 44-rupee range for the past four years. This sharp rise is already affecting exports from the textile and other industries that compete on cost in international markets.

The economic fallout of the rise in the rupee has triggered a vigorous debate. The basic policy choice is seen as follows: should India's central bank—the Reseve Bank of India—allow a much more flexible rupee, or should it impose controls on capital inflows, or on the banking system as in China, to prevent a rupee rise? In my opinion, a moderately flexible exchange rate and stringent curbs on foreign inflows are best suited for India at present.

The Impossible Trinity

ANY DISCUSSION OF this issue should be anchored in the fairly well known "impossible trinity" condition, based on Nobel laureate in economics Robert Mundell's pioneering analysis (see related interview with Mr. Mundell on page 16). The condition states that a country can choose only two of these three possible options: First, an independent monetary policy, which allows it to choose its interest rate. Second, fixed exchange rate. Third, full capital-account convertibility. To analyze possible intermediate policy choices, it is useful to schematically represent this as a triangle, giving primacy to independent monetary policy by placing it at the top. (See diagram on page 21).

Under a fixed exchange rate any slight difference of interest rates leads to an endless arbitrage flow of capital one way, due to full convertibility, that destabilizes the economy. This implies that under full convertibility, a country must keep its interest rate the same as the foreign interest rate, resulting in a substantial loss of independence to fight inflation or recession when needed. However, if a country has limited capital-account convertibility, it can juggle some degree of monetary autonomy with

Mr. Moorthy is professor of economics at the Indian Institute of Management Bangalore.

some fixity in the exchange rate, as India successfully was doing—until recently.

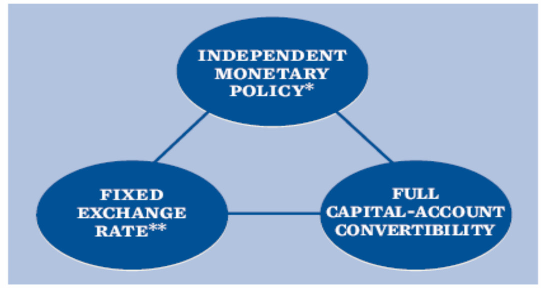
What happened in India over the last four years up to March 2007? As the capital account has been greatly liberalized, capital has been rapidly pouring into the country. Despite India's current-account deficit in the last two years, the inflows have been so large that had the RBI not intervened to buy dollars, the rupee would have risen sharply.

However, the RBI's goal has been to target the real effective exchange rate (REER), a weighted, inflation-adjusted index of the rupee against India's major trading partners. The REER target means that the RBI does not try to peg the rupee at a fixed level, but tries to lower it gradually to ensure that India's exports stay competitive despite higher inflation. Although the RBI states that it intervenes only to prevent volatility, and that it has no REER target, its forex trading indicates otherwise. (This is a bit like a Miss World contestant saying her main aim in life is to help the blind.) Barring the last two years, the RBI has managed to keep the REER close to 100, as the last column in the table on page 22 shows. However, in the last two fiscal years, the inflows have been so large that the RBI has moved to a more modest goal of preventing an absolute rise in the rupee.

In recent years, as the Indian economy has begun to overheat, the RBI has been losing control over inflation solely due to its rupee-pegging policy—despite its other tightening moves. Having printed reserve money to buy dollars, the RBI has then been massively sterilizing the inflow (by offsetting money-market operations to sell bonds to the public) that reduce domestic credit, commonly referred to in India as net reserve bank credit to government, or NRCG.

As can be seen from the same table on page 21, the sterilization has been so massive that NRCG has been negative (or close to zero) in the last three years. This is very

MUNDELL'S IMPOSSIBLE TRINITY



NOTE: * DOMESTIC CONTROL OVER INTEREST RATE AND MONEY SUPPLY
** IN THE CASE OF INDIA = A REAL EXCHANGE RATE TARGET
SOURCE: RBI

unusual. Total reserve money created by the RBI is, broadly speaking, the sum of net foreign-exchange assets (NFA) and NRCG, with an accounting adjustment to value foreign-exchange reserves in rupees. It is literally the monetary base that commercial banks use to make loans and create deposits. Despite such oversterilization, in the three fiscal years ending March 2007, reserve money rose by 60.7% and broad money (M3) rose by 64.3%. Most crucially, bank credit which probably has the most impact on the economy and inflation, rose by 89%, (see table on page 23). Much of this bank credit has gone into real-estate lending. Sectoral data show real-estate loans grew by 155% in the period December 2004-05 and by 66% in the period December 2005-06. A construction boom and house-price bubbles in Bangalore, Delhi and other cities has been under way for some time.

Due to the RBI's lax policy reflected in such high money and credit growth rates, the largely ignored consumer price-inflation measures, which are weighted heavily with food items, rose sharply. In fiscal year 2006-07, the consumer price index for agricultural labor rose by 9.5%, almost double the inflation in the previous fiscal year. Even though the more widely used wholesale price index measure of inflation has eased in April, the level of food prices is still high. Last month, the hardship caused by rising or high food prices con-

MASSIVE STERILIZATION

India's domestic credit levels dwindle

Fiscal Year End (Mar. 31)	Exchange Rate Rs/$	Net Foreign Exchange Assets*	Net Reserve Bank to Credit Gov't*	Forex Reserves $ bn.	REER Index
2002	48.80	2,639.69	1,413.84	54.11	102.49
2003	47.51	3,582.44	1,129.85	76.11	97.43
2004	43.45	4,844.13	3,692	112.96	98.85
2005	43.76	6,127.90	- 179.75	141.51	101.35
2006	44.61	6,729.83	81.38	151.62	106.67
2007	43.59	8,661.53	-28.02	199.18	104.91
May 4	40.90	8,327.17	159.29	204.00	110.33**

NOTE: REER = REAL EFFECTIVE EXCHANGE RATE (YEAR 1993-94 =100)
* IN BILLIONS OF RUPEES ** APRIL 13, 2007
SOURCE: RBI

tributed to the trouncing of the ruling party in elections in India's most populous state, Uttar Pradesh.

Emulating the Yuan

TO FIGHT INFLATION, the RBI has been raising rates for well over a year, and more recently, its most powerful policy tool, the cash-reserve ratio which impounds the reserves of the banking system, restraining their deposit expansion. The combination of the rupee peg, rising domestic interest rates and full convertibility led to such an inflow that the RBI had to buy $12 billion equivalent in forex in February 2007 alone, more than 1% of annual GDP. The consequences of the impossible trinity were manifest in the economy.

Whether by compulsion or by choice, or both, the RBI stopped or reduced buying foreign exchange in March and April. The rupee rose to 43.59 rupees to the dollar in end March from 44.3 rupees to the dollar in February. As of May 24, the rate was 40.61 rupees to the dollar.

The strains caused to exporters and others by this abrupt, large rise have led to a sea change of opinion regarding the convertibility benefits that a floating rupee permits. In the last year, there has been a growing divide between the Ministry of Finance which was for a more flexible rupee, and the RBI, which has been trying to continue with some degree of pegging. On April 2, an expert committee presented a report recommending policies to make Mumbai an international financial center. Such a move effectively requires the rupee to be fully convertible.

Since then, the jump in the rupee has jolted a wide range of people. It has made them realize how easily a stronger rupee—arising from huge capital inflows that exceed the prevailing current-account deficit—could wipe out whole export sectors and jeopardize India's growing presence in the global economy. It has also pushed the pipe-dream report on making Mumbai an international financial center to the back burner—and for good reason.

Instead, there is now a small chorus that India must emulate the East Asian countries and export its way to prosperity, by maintaining a cheap currency. It is being suggested that India should manage the impossible trinity the way China does, i.e., by sterilizing the forex surplus by imposing stiffer cash-reserve ratios on the banking system. This limits the total expansion of money supply and credit for any initial expansion of the reserve money. China's CRR is 11.5% as of May 2007, while India's CRR was kept at 5% between October 2004 to October 2006. The CRR was raised in steps and only when interest-rate increases were proving ineffective. Currently it is at 6.5%.

The RBI will perhaps use the CRR and the incremental CRR (targeted at expanding banks, not all banks), to fight inflation, while continuing to peg the rupee and mop up forex inflows. However, it is dangerous to try to emulate China. Taxes on the banking system and financial repression cannot substitute for controls on inflows, if the goal is to maintain some exchange-rate peg. Those advocating such policies are overlooking a very fundamental fact:

India's underlying inflation rate is about two to three percentage points higher than China's inflation rate. Hence India's interest rates need to be, and are, that much higher. The 10-year government bond now yields well over 8%. Without stringent controls on inflows, under a fixed exchange rate, the flood of external borrowing will swamp the economy. It is ironic that just as China has moved to a flexible rate since 2005, economists in India might be thinking of emulating its peg. Decisions to withdraw from bank deposits to invest in China's frenzied stock market have been partly triggered by too low policy rates.

A Simple Suggestion

IN MY OPINION, a moderately flexible exchange rate, explicitly avoiding a real exchange-rate target, coupled with carefully chosen capital controls, is best suited for India now. The flaw with a real exchange-rate target is that, although it takes care of inflation differences, it does not adjust for underlying changes in competitiveness. The Internet has made the world flatter. India's previously nontradable services—namely, English speaking voices—became exportable. The REER index with base 1993-94 is thus very outdated. On the other hand, the problem with a full float is the sharp swings in the nominal—and thus real exchange rate—that can occur under full convertibility.

These problems can be avoided by limiting inflows. Intervention should be undertaken strictly to limit volatility and nothing else. How can this be operationalized? The RBI can declare an annual target and intervene only if the rupee moves outside a moderate range say between minus 8% to plus 5%, allowing for our 3% higher inflation. Once a year, the target should be adjusted to some average rate that prevailed in the previous year. In academic parlance, this is a random walk band. If fundamentals suddenly warrant a 20% jump in the real exchange rate, let this happen gradually over four years, at 5% per annum. With $ 200 billion in reserves, and with policies to curb inflows, the RBI should be able to achieve such a target.

A RUNWAY TIDE

The results of the rupee peg

Fiscal Year End	Reserve Money	Broad Money (M3)	Bank Credit
2003-04	100 Index	100 Index	100 Index
2004-05	120.5	122.5	125.9
2005-06	131.2	136.1	166.4
2006-07	160.7	164.3	189.2

SOURCE: RBI

Controls that reduce leverage and trading limits and thus act as a natural hedge against volatility should be tried. The rupee tumbled in February 1996, just after banks were allowed to raise their open forex position limits, and related liberalizing measures, in accordance with the Sodhani Committee recommendations of September 1995. As I have argued elsewhere, this tumble may not be just a coincidence.

An unremunerated reserve requirements tax on short-term inflows, as pioneered in Chile and tried by Thailand in December 2006, is one such policy. Even if the stock market falls sharply as in Thailand, policy makers should resolutely stick to their guns. In a world with huge immigration barriers, there is a strong logical and practical case for controls on inflows from richer countries.

Time to take a 'random walk'

The RBI can declare an annual target and intervene only if the rupee moves outside a moderate range, says
VIVEK MOORTHY


BINAY

In a recent article, former Chief Economic Adviser Shankar Acharya has staunchly defended the policy of forex intervention to prevent a rising rupee, as India has been intermittently doing since 1995, informally based on a real exchange rate target. To justify this policy he lists a few "textbook propositions" whose applicability for India he denounces as rubbish (August 9). His strong dismissals of these textbook propositions are generally on weak grounds; space constraints prevent elaboration here.

Nevertheless, one vital statement "The exchange rate is the single most important (relative) price in the economic domain" warrants rebuttal. Wrong. The exchange rate is a crucial relative price, but so is the price of oil and the price of wheat. For a large, domestic demand-centred economy, there is no justification to pursue an exchange rate target at the expense of a price (i.e. inflation, say CPI) target.

Overall his article provides a good point of departure for evaluating desirable and feasible combinations of rupee policy now. To begin with, he has outlined the data which show that the rupee rise this summer was mainly due to relaxing the cap on external commercial borrowings (ECBs). Of the $ 22 billion rise in the capital account surplus in 2006-07, about two-thirds ($13 billion) was from ECBs. I am very much in sync with him and many others on this, and had argued for curbs on inflows and easing of some outflows way back in early 1997.

Where Acharya goes astray, in my opinion, is in defending a (real) exchange rate target. Curbs on inflows are useful to reduce volatility, and to prevent a huge rupee rise that will hurt exports. But such curbs can be combined with a flexible exchange rate which, under current circumstances, is desirable in my opinion. With stiff curbs on capital inflows, it is unlikely that a flexible exchange rate regime can hurt exports much. Far from being mutually exclusive, capital controls and a flexible rupee are highly compatible policies. The reader of his article might have come away thinking or concluding otherwise.

Far from being mutually exclusive, capital controls and a flexible rupee are highly compatible policies

In contrast to his advocacy of pegging, the Economic Advisory Council under Dr Rangarajan has made careful and balanced recommendations in July 2007. The EAC has recommended a combination of (i) curbs on debt (but not equity inflows) (ii) allowing some rupee rise and (iii) sterilizing inflow of forex, resulting from intervention, by hiking the cash reserve ratio. It should be mentioned that Dr Rangarajan, our greatest academic and policy economist, had recommended curbs on debt inflows as part of the recommendations of the 1993 BOP Committee which he headed.

Where the EAC falls short, in my opinion, is in not tackling a crucial policy choice: should forex intervention be fully discetionary, or transparently conducted. If the latter, should it be done as and when the RBI decides to, or should it be based on an explicitly announced target or exchange rate band?

Due to the explosive growth in global and Indian financial markets and capital inflows this is not a minor matter. We cannot muddle along as usual. In my opinion, it is dangerous for the RBI to buy and sell dollars at its discretion and semi-secretly (due to the roughly two-month delay in reporting intervention) as at present. The current policy might suddenly lead to a huge loss in reserves to Soros-type speculators and/or damage to the economy in trying to maintain a particular exchange rate.

There are grounds for believing that systematic and transparent intervention at specific levels is preferrable to secretive ad hoc intervention. An explicitly announced REER target (what the RBI has implicilty been doing for years) is one such transparent policy. Unfortunately it is the wrong one since it conflicts with the more fundamental goal of inflation control. And in the long run a central bank cannot determine the real exchange rate any more than it can determine the real interest rate or real GDP growth. All that it can determine in the long run is a nominal variable — the price level or exchange rate as a final goal.

All across the world, it is becoming clear that economic fundamentals favour rising currencies in emerging economies, as they grow richer and their productivity rises. In the Indian press, Ruchir Sharma provided valuable evidence that accordingly policy is changing for many countries (*Economic Times*, June 5). The market meltdown and related repatriation by FIIs, hedge funds and others weakened the rupee (week ending August 18), but over time the rupee will tend to be under pressure to rise due to 'rising' (although not zooming, to be realistic) India.

The Internet has made the world flatter. India's previously non-tradable services, starting with English speaking voices are increasingly being exported. The 1993-1994 goods based REER index and/or weak rupee policy that Rajwade, Bhalla, Acharya and others are defending is badly outdated. At the other extreme, a pure float under high capital convertibiity (not even 'fuller', let alone full) leads to sharp swings in the real exchange rate, causing huge dislocations to exports, and lives of those working in export industries.

Both these extremes can be avoided by limiting inflows and intervening to limit volatility and nothing else. Even equity inflows will need to be limited. It is evident from August's gyrations that some of the Yen carry trade is not a pure uncovered interest arbitrage debt play. Rather hedge funds and other punters have borrowed in Yen and invested in, among other assets, emerging market equities.

How can a policy of intervening only to limit volatility be operationalised? I have suggested that the RBI can declare an annual target and intervene only if the rupee moves outside a moderate range, say between plus 5 per cent and minus 8 per cent, allowing for our 3 per cent higher inflation. Once a year the target should be adjusted to some average rate that prevailed in the previous year. In academic parlance, this is a 'random walk band.'

With fairly stiff curbs on inflows, the demand and supply of rupee forex will come mainly from the current account (i.e exports and imports), which does not gyrate hugely. As a result, it should be easy for the RBI to manage the target band. And it will benefit the economy to allow the exchange rate to respond mainly to current account pressures.

Free market purists would say that all target zones are bound to fail — either firmly fix or freely float, but avoid the precarious 'unstable middle'. There are umpteen instances of exchange rate tunnels, snakes and zones failing, as Milton Friedman, the most vocal proponent of a pure float, never failed to point out. From this perspective, the 'crawling peg' most often ends up being a falling peg!

However, in retrospect, most such failures occurred because either there were huge capital flows, or the central bank was not independent enough to ensure low inflation in sync with the weighted inflation rate of the target zone partners. The polar extremes of freely float or firmly fix are better than the 'pragmatic middle' only if the modern way of ensuring macroeconomic discipline — an independent central bank — is not politically feasible. Further, a 'random walk' target, unlike a simple crawling peg based only on inflation differences allows the real exchange rate to vary in response to fundamentals.

If the RBI can deliver 4-5 per cent inflation steadily as a final goal, then a 5 per cent annually adjusted random walk real exchange rate target band, under moderate to stiff capital controls, is a consistent, feasible and desirable policy.

vivekmoorthy@iimb.ernet.in

Overheating and undereating

The major task in emerging economies now is how best to tackle high or rising food prices, say Vivek Moorthy and Shrikant Kolhar

As measured by the Wholesale Price Index (WPI), inflation rose to 6.7 per cent (year over year) in early 2007 from 3.7 per cent in April 2006, and has fallen to 4.3 per cent as of end June 2007. A proper assessment of whether inflation has adequately declined is crucial for conducting monetary policy now. If the economy is overheated (the view of IMF economists Kochhar and Aziz, June 5; Vivek Moorthy, May 14; and the London *Economist* in February and June 2007), then recent RBI attempts to tighten are warranted. But if not, then it is wrong to do so merely because of rapid GDP growth.

Surjit Bhalla is a vocal proponent of the "don't kill sustainable growth" view. Recently he forecast that WPI inflation would soon decline, and accordingly argued that the RBI policy measures of late 2006 through March 2007 were a case of belated overkill ("Inflation an ex-problem," May 17). More recently he has stressed that the GDP deflator has been close to 4 per cent for four years in a row ("When will they ever learn," June 23). This is taken as an indication, or vindication, that the RBI should not tighten. End of story? No. In our opinion, while he is correct that GDP deflator and the WPI do not indicate overheating, his conclusion that the RBI should not tighten does not follow.

In assessing India's inflation situation, the first fundamental fact to note is that intra-year swings in y-o-y inflation are huge. This is not due to seasonal fluctuations which affect the intra-year price level, but get automatically cancelled out in measuring inflation y-o-y, as done here. Instead when the price level jumps unusually in a given period (for example, week or month), the inflation rate also rises for that period, but falls back the same period the next year. This is the well-known base effect.

The base effect in India is enormous, compared to developed countries. For the last three fiscal years ending March 2007, the intra-year swings in weekly WPI inflation were 330, 260 and 440 basis points respectively. The swings in the manufacturing component of the WPI have also been enormous: 510, 365 and 350 basis points respectively. Out of its three components (primary articles, manufacturing and fuel group), the most variation in the WPI is due to manufacturing, because of its huge weight (63.75 per cent).

A TALE OF TWO INFLATIONS

(Percentage change over corresponding period last year)

	Q1 '07-'08† Apr-June	Q4 '06-'07* Jan-March	Q4 '05-'06 Jan-Mar	Q2 '04-'05 Jul-Dec
WPI	5.2	6.4	4.0	8.0
3-year Average	5.0	5.2	5.0	
Manufactured Products (63.75%)	5.4	6.3	2.0	7.6
3-year Average	4.2	4.4	4.5	
Primary Food Articles (15.4%)	8.3	10.0	6.2	3.6
Pulses (0.6%)	4.6	20.4	25.1	0.3
Wheat (1.36%)	9.1	10.8	10.4	3.6
CPI (Industrial-Worker)	5.9	7.3	4.7	4.2
3-year Average	5.4	5.5	4.6	
CPI (Agricultural Labour)	8.1	9.6	5.0	2.8
3-year Average	5.8	5.7	3.8	

*Q4 data measure inflation for that fiscal year based on quarter, not month or week
† Q1 07-08 CPI data are for April-May
Figures in parentheses are weights in WPI

Viewed against this backdrop, the roughly 250 basis point inflation decline in weekly data from January to June is no big deal. In fact, it can be described as noise about noise. In general, intra-year changes in inflation in India should be ignored, due to a strong base effect. A three year moving average of y-o-y data is a good signal of underlying inflation (Vivek Moorthy, *Economic & Political Weekly*, Oct 6-13, 2001).

If the inflation decline is no big deal, by the same token the earlier rise between late 2006 and February 2007 is also much ado about nothing. Why then all the brouhaha early this year about rising inflation? What prompted the finance ministry to impose economically damaging export bans and price controls on wheat, sugar, milk and other commodities? And RBI actions also?

The accompanying table provides the answer. The right-most column shows that the WPI in July-Sep, 2004 soared to 8 per cent. But neither the press nor policymakers bothered too much. But when the WPI rose to only 6.7 per cent this February, there was wide discontent leading to policy reaction. Why the disparate response?

The answers is reasonably obvious. What matters for the welfare of the public is not the WPI which is two-thirds manufacturing but the Consumer Price Index (CPIs) in which primary food articles carry a much higher weight. The WPI matters for business India, while the various CPIs (industrial workers, urban non-manual, agricultural labour and rural labour) matter for the people of India.

The 8 per cent WPI rise in July-Sep, 2004 was mainly due to manufacturing which was at 7.6 per cent. Primary food inflation — notably in pulses — was very low. Conversely, in Jan-Feb, 2007, primary food inflation in the WPI was exorbitantly high, following similar highs, 25.1 per cent and 10.4 per cent in the previous fiscal years. The discontent due to this hardship transmitting itself through Parliament via the finance ministry seems to have led to the various price control and tightening measures.

Bhalla is correct that reports of overheating have been exaggerated. The 6.3 per cent WPI manufacturing inflation in Jan-Mar, 2007 was not a sign of overheating because it has fallen back to 5.4 per cent in Apr-Jun, 2007. Indeed, the three-year average for manufacturing WPI (*see table*) shows a decrease of late, despite unexpectedly robust GDP growth for four years. A productivity miracle is under way globally, leading to low inflation in items of sectors such as finished steel, despite rising iron ore costs.

The pervasive WPI focus is obscuring information vital to people's economic welfare

However does this mean that the RBI should not tighten? No, because food inflation is unacceptably high. The pervasive focus on the WPI is obscuring information critical for the economic welfare of the people. The CPIs pertain to consumers with widely different expenditure patterns and incomes, but that does not justify ignoring them. A composite CPI weighted by population shares, or even a simple average, should be targeted.

The booming world economy, especially China and India, is pushing up demand for food and energy. This boom, coupled with George Bush-mandated and voluntary moves to corn-based ethanol is driving up wheat and corn prices, as wheat acreage gets diverted to corn in America's midwest and elsewhere. Peter Brabeck, CEO of Nestle, the world's largest food company, said in early July that "food prices are set for a period of significant and long-lasting inflation." It is misleading now to treat food inflation as due to transitory supply shocks and focus on core inflation.

The problem has been acute in Mexico, where the price of corn tortillas (their *chapatis*) doubled overall to about 45 cents a pound in January 2007 y-o-y, with much higher increases in some regions. This led to a 75,000 strong (repeat 75,000) protest rally in January end. China's CPI inflation for June was 4.4 per cent, the highest in three years. The bulk of the inflation was from food (running at over 7 per cent) although that has only about a one-third weight in China's CPI.

Our Prime Minister had himself stated, in his economist days, that low inflation was the best anti-poverty policy. Low primary food inflation, to be more precise, since money incomes of the poor are not automatically or fully indexed to inflation. Even if food inflation subsides, unless it turns adequately negative, the price level at which food is bought remains higher. The *aam aurat* faces a difficulty that the ostensibly knowledgeable economics 'commentariat' tends to be ignorant about.

The major task, in our opinion, for economic policy in emerging economies now is how best to tackle rising food prices, even when general inflation remains low. Food prices involve agriculture, trade, exchange rate, commodity futures markets and monetary policy.

Even when overall inflation is low or on target, but food inflation is too high, to avoid knee jerk price controls, banning futures and similar tinkering, should a central bank squeeze GDP growth and reduce inflation (and also allow some real currency appreciation) to lower the burden of food prices? That is a long question. It will require time for policymakers to digest that and formulate suitable responses. Hopefully, in the short run we are all fed!

The authors can be contacted at vivekmoorthy@iimb.ernet.in and shrikantk04@iimb.ernet.in