

# Some Apparent Puzzles for Contemporary Monetary Policy

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## I. Introduction

I feel very honoured to have been invited to deliver this dinner address to this distinguished audience. We have had a long day of intensive discussions centered on issues related to the Indian and Chinese economies. I thought that, given the timing of this address and the fact that we have experts present here on both the economies, it would be more advisable to talk about some general issues that are engaging economic policy and monetary policy makers today all over the world. This is perhaps safer since there are no clear answers and hence one is free to speculate!

We are living through interesting times. Oil prices have been rising at a fast pace over the last two years. The IMF, in September last year had used an implicit projection of oil prices at US\$ 37.25 per barrel in 2004. Now, however, the forecast for international crude prices - the biggest risk to global growth - has been revised upwards by 20.5 per cent from the April 2005 projections and world trade growth projections has been cut by 50 basis points. Unlike earlier expectations, when this price rise was expected to be relatively temporary, international opinion now is that it is more permanent than temporary. Yet, the IMF's September 2005 World Economic Outlook (WEO) has retained the global output growth forecast at 4.3 per cent, a level higher than average world output growth through the 1990s and until 2004, though it admits that risks are still slanted to the downside. In our own two countries there is, as yet, no sign of a slowdown: in fact, just earlier this week, we at the Reserve Bank of India, revised our growth forecast for 2005-06 (i.e., April 2005-March 2006) for policy purposes from "around 7 per cent" in April 2005 to "7.0 per cent – 7.5 per cent" now. And we are among the countries that are said to be more energy inefficient and dependent on oil imports.

One also sees little impact of the current oil price episode on global financial markets. Undisturbed by the somewhat slowing global growth scenario, financial markets have remained generally benign with low interest rates and healthy stock markets. Moreover, corporate balance sheets in most countries have been exhibiting continuous improvement with no pause in the determined efforts observed towards restructuring and productivity promoting cost cutting activities. This is certainly true in India and presumably in China as well. In fact this financial strengthening of the real corporate sector is perhaps underpinning the continued health of the financial system and is emerging as a cushion against medium term risks and uncertainties. I am saying all this against the backdrop of the difficulties that we all went through in the previous oil price shock episodes of 1973-74, 1979-80 and 1989-90.

Besides, the macroeconomic imbalances - a key risk to global growth - have actually increased with the current account deficit of the US poised to cross

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6 per cent of GDP and its fiscal deficit 3.7 per cent of GDP in 2005; surpluses are correspondingly set to rise in Japan, China, oil exporters in the Middle East, emerging Asia (excluding India where current account deficits have returned) and the CIS countries. Yet financial conditions have enabled a smooth financing of these imbalances with growth and interest rate differentials continuing to fuel investors' appetite for the US.

At the same time, the same favourable financial developments have caused large imbalances to grow inwards, particularly in the form of household debt and increases in housing prices and this is seen as heightening risks for the future. Low bond yields and flat yield curves have triggered an ever-widening search for yields, aided by the compression of credit risk spreads. This has, perhaps, increased the risks embedded in the financial system and financial markets could become vulnerable to corrections. Questions regarding the sustainability of current global growth, overall credit quality and the state of the household sector's finances have begun to arise. The same set of factors, however, have improved the access of emerging market economies to financial markets, with the low spreads of their bond yields enabling financing of strong growth with moderate inflation, strengthening of fiscal and balance of payments positions and the accumulation of foreign exchange reserves.

Perhaps the greatest puzzle in current global developments is the co-existence of abundant liquidity and low consumer inflation, though there are now some incipient signs of oil price induced increases in most countries. Despite the prolonged period over which monetary policy all over the world has remained accommodative, inflation has been unusually benign, relatively impervious to soaring crude prices and the elevated levels of prices of non-fuel commodities. This phenomenon is unique in recent history.

These are not out-of-the-earth paradoxes and many explanations have been offered. Yet, taken together these stylised facts give an indication that conventional wisdom often fails to explain them. It is in this context that I shall focus on some of these apparent puzzles and their explanations in the present lecture. I am particularly concerned with possible erosion of the efficacy of traditional price related policy measures, viz., the exchange rate and interest rate mechanisms in restoring macro economic balances.

The rest of my address is organized as follows. Section II presents some stylized facts, puzzling as they are in terms of the conventional understanding and wisdom. This is followed by a discussion on the proximate explanations (section III). The last section has taken up an appraisal of the way ahead in terms of possible policy responses keeping in view the shifting balance of risks and the muted pricing signals (section IV).

## **II. Some Apparent Puzzles**

From the various puzzles that the monetary policy makers routinely face, let me focus on six issues, viz., (1) the US dollar appreciating despite increasing US twin deficits, (2) soaring oil prices accompanied by strong global growth, (3) long term bond yields falling in the presence of Fed Fund rate hikes, (4) low consumer inflation in the presence of abundant liquidity and increasing asset prices, (5) strong global growth accompanied by slowdown in global saving and

investment rates and (6) the phenomenon of low inflation despite currency depreciation.

### *Increasing US Twin Deficits and the Appreciating US Dollar*

Over the past two decades, the US has transformed itself from the world's largest creditor into the world's largest debtor nation. At the end of 2004, its debt to the rest of the world exceeded its assets by about US \$2.5 trillion, i.e., 21 per cent of its GDP. Driving this massive mismatch is the quantum jump in the current account deficit during 2000-04 from the level during 1995-1999, largely resulting from the mounting fiscal deficit and falling private savings. The US macro imbalances are set to accentuate following the disaster brought upon by Hurricanes Katrina and Rita. The IMF's September 2005 *World Economic Outlook* projects the U.S. current account deficit to rise to over 6 per cent of GDP in 2005, driven by higher oil prices and strong domestic demand (Table 1).

**Table 1: US Twin Deficits, NEER and REER**

	Current Account Balance/ GDP (Per cent per annum)	General Government Fiscal Balance/ GDP (Per cent per annum)	NEER (2000=100)	REER (2000=100)
1990-1994	-1.00	-4.88	85.80	87.80
1995-1999	-2.06	-1.24	89.78	86.33
2000-2004	-4.63	-2.39	97.13	98.09
2005	> -6.0 #	-3.7 #	83.13*	87.73*

# : WEO's Projection; \*: Pertains to August 2005.

Source: World Economic Outlook, IMF; International Financial Statistics, IMF and World Development Indicators On-line, World Bank.

What is the solution to these persistent and mounting imbalances? Conventional wisdom would suggest that the existence of these twin deficits and little expectations of improvement at present would have led to a market led sizeable adjustment of the US dollar against other major currencies. The US dollar, which did encounter depreciation in terms of NEER in the first half of 1990s, appreciated in the second half of 1990s and even in terms of REER during 2000-04. The process has also continued during the first eight months of 2005 despite the sustained rise in the U.S. current account deficit, offset primarily by a depreciation of the euro, pound sterling and yen. The weakening of the euro against the US dollar in recent months possibly reflects the increasingly unfavorable short-term interest rate differentials and growing political uncertainties in Europe following the rejection of the European Union's constitution in France and the Netherlands, and post-election problems in Germany. Except in the ASEAN-4, the trade-weighted exchange rates of the US have generally appreciated in emerging markets, particularly in Latin America. Following the Chinese exchange rate reform on July 21, 2005 — including a 2.1 per cent revaluation, the adoption of a reference basket of currencies, and a 0.3 per cent daily fluctuation range against the U.S. dollar — the renminbi has remained broadly unchanged against the U.S. dollar. Clearly, the steady/ appreciating US dollar despite the rising current account deficit constitutes a daunting paradox of the day.

## *Strong Global Growth despite Soaring Oil Prices*

After the oil shocks of the 1970s, the first half of the 1990s witnessed deflationary pressures in terms of real oil prices. However, the lull in oil prices turned out to be short-lived. Soaring oil prices have since characterized the period 2000-2004 when the WTI prices increased sharply from the level in the second half of the 1990s. While the IMF's real oil price index at 277 in 2005 so far remains below the peak of 452 witnessed in 1980, oil prices are scaling new heights every day driven mainly by growing or unchanged demand, low inventories, lack of spare capacity, and geo political tensions and uncertainties. While the accommodating global monetary conditions have placed oil futures in the class of sought-after financial assets, the persisting high levels of oil prices increasingly indicate that a large part of the oil price hike has attained a permanent character (Table 2).

**Table 2: Global Growth, Business Confidence, Corporate Profit Growth and Oil Prices Inflation**

	World Growth (per cent per annum)	Growth in World Trade Volume (goods & services) (per cent per annum)	US Business Confidence Index	US Corporate Profit Growth (per cent per annum)	WTI Oil Prices (US \$ per barrel)
1990-1994	2.62	5.57	--	7.15	20.44 (-1.86)
1995-1999	3.69	7.46	54.63 <sup>^</sup>	7.57	18.95 (4.67)
2000-2004	3.84	6.34	60.50 <sup>^</sup>	6.88	30.97 (19.36)
2000	4.71	12.44	51.66	-3.91	30.32 (58.17)
2001	2.44	0.08	43.91	-6.19	25.87 (-14.67)
2002	2.95	3.41	52.37	15.49	26.12 (0.95)
2003	3.97	5.44	53.31	16.42	31.10 (19.07)
2004	5.13	10.33	60.50	12.57	41.45 (33.29)
2005	4.30 P	7.00 P	54.45*	16.00#	56.01 (35.14) P

P: WEO's projection for 2005 over 2004; \*: August 2005; Figures in bracket are annual percentage changes; #: 2005 Q2 YoY; ^: pertains to the year 1999 and 2004 respectively.

Note: The overall US Business Confidence index, referred to as the US Business Conditions Index, ranges between 0 and 100. An index greater than 50 indicates an expansionary economy over the course of the next three to six months (Taken from World Economic Outlook, originally compiled by the Institute for Supply Management, US)

Source: World Economic Outlook, IFS, IMF; Fed Reserve, US and Bureau of Economic Analysis, US.

The worrisome news on oil continues to project the image of a world besieged with higher oil prices, bringing the painful memories of the oil shocks of the 1970s to the fore. Yet, global growth remains remarkably on track. Indeed, the growth momentum has only improved from the second half of the 1990s to the first half of this decade. The growth in world trade volume (goods and services) has also recovered after some slowdown in 2001 and 2002. The September WEO has, thus, retained its April estimate for 2005 global growth at 4.30 per cent. What is all the more surprising is the increasing business confidence (e.g., in the US) coupled with high corporate profit growth during 2002-05, much higher than in the roaring 1990s.

## Falling Long Term Bond Yields in the Presence of Fed Fund Rate Hikes

With the economic expansion continuing strongly and risks shifting towards possible inflationary pressures, the US Fed has started reducing the degree of policy accommodation and raised the policy rate eleven times since June 2004 by a 'measured' 25 basis points each time, with indications of further such hikes. While the PLR of banks in the US has responded to every hike in the target federal fund rate, the long-term interest rates that are set by financial markets continue to remain unusually low – what Federal Reserve Chairman Greenspan has referred to as a “conundrum”. The best way to summarise this issue is to quote from Chairman Greenspan:

*“In this environment, long-term interest rates have trended lower in recent months even as the Federal Reserve has raised the level of the target federal funds rate by 150 basis points. This development contrasts with most experience, which suggests that, other things being equal, increasing short-term interest rates are normally accompanied by a rise in longer-term yields...For the moment, the broadly unanticipated behavior of world bond markets remains a conundrum. Bond price movements may be a short-term aberration, but it will be some time before we are able to better judge the forces underlying recent experience” (Greenspan, 2005a).*

Given the understanding that the long term yield tracks the behaviour of current and expected inflation (Fama, 1986) along with expected growth performance of the economy in terms of productivity of capital (Mishkin, 1991), the current behaviour of yield defies conventional wisdom (Table 3).

**Table 3: Federal Funds Rate, PLR and US Govt. Securities Yield**

		(Per cent)		
		Federal Fund Rate	US PLR	10-Yr. G-Sec Yield
2004	May	1.00	4.00	4.72
	Jun	1.03	4.01	4.73
	Jul	1.26	4.25	4.50
	Aug	1.43	4.43	4.28
	Sep	1.61	4.58	4.13
	Oct	1.76	4.75	4.10
	Nov	1.93	4.93	4.19
	Dec	2.16	5.15	4.23
2005	Jan	2.28	5.25	4.22
	Feb	2.50	5.49	4.17
	Mar	2.63	5.58	4.50
	Apr	2.79	5.75	4.34
	May	3.00	5.98	4.14
	Jun	3.04	6.01	4.00
	Jul	3.26	6.25	4.18
	Aug	3.50	6.44	4.26
	Sep	3.62	6.59	4.20

Note: US PLR is the rate posted by a majority of top 25 (by assets in domestic offices) insured U.S.-chartered commercial banks. It is one of several base rates used by banks to price short-term business loans.

Source: U.S Fed

A host of hypotheses have been put forward as an explanation of the conundrum, *inter alia*: easy liquidity conditions, glut in global savings over investment (Bernanke, 2005), forex reserves build-up in the Asian economies, gradual expected pace of US tightening made possible by a high level of monetary credibility, low expected inflation, low term/ risk premia and flight to quality after the dot com crash in 2000. Meanwhile, the low bond yields and flat yield curves have triggered an ever-widening search for yields, aided by the compression of credit risk spreads. The behaviour of long-term rates to the short-term policy rates is, thus, posing a threat to the traditional transmission channels of monetary policy, looming large on the efficacy of monetary management the world over.

*Low Consumer Inflation in the Presence of  
Abundant Liquidity and Increasing Asset Prices*

The global economy is currently awash with liquidity. Exactly seven years ago, the US Fed responded to the 'low probability but highly adverse events' (Blinder and Reis, 2005) leading up to the Russian debt default and the LTCM collapse by an emergency cut in interest rates in September, October and November 1998. Even though the reduction was just 25 basis points each month, it shifted the monetary policy stance to accommodation. Once again, prompted by a deflation scare, the fed fund rate was cut over a 42-month stretch from December 2000 to June 2003 to a 45 year low of 1 per cent, taking the real federal funds rate into negative territory. Thus, real policy rates were effectively zero or negative until very recently in the US and remain below the "Wicksellian" long-term neutral rate. Real policy rates in the UK and euro area are also generally hovering around zero. Coupled with the benign policy rates, money supply growth, which increased in the second half of the 1990s in the UK continued at the elevated level during 2000-04. Similarly, money supply growth went up in Euro area in 2000-04 from a lower level in 1995-99. Even in the US where money supply has lost much of its charm as an information variable, there has been accelerated money supply growth during 1995-99 which has largely been sustained during 2000-04 (Table 4).

**Table 4: Policy Rates and Growth in Money Supply, Credit, Asset Prices, Consumer Prices and Producer Prices<sup>1</sup>**

		(Per cent)		
	Variable	1990-94	1995-99	2000-04
US	Policy Rate	4.9	5.4	2.8
	Money Supply	1.4	8.5	7.6
	Reserve Money	7.8	8.6	3.7
	Credit	3.0	7.5	7.0
	Equity Prices (Dow Jones)	7.2	24.7	-0.3
	Housing Prices	-1.9	1.9	5.8
	Producer Prices	1.4	0.8	3.2
	Consumer Prices	3.6	2.4	2.6
UK	Policy Rate	9.1	6.3	4.6
	Money Supply	5.9	7.6	7.6
	Reserve Money	4.1	4.6	5.3
	Credit	5.7	7.4	10.3
	Equity Prices (FTSE 100)	5.8	17.8	-5.9
	Housing Prices	-1.8	4.3	15.3
	Producer Prices	4.2	1.6	1.1
	Consumer Prices	4.6	2.8	2.4
Euro area	Policy Rate		2.8 (1999)	3.0
	Money Supply	7.1	4.7	6.9
	Credit		7.9	5.9
			('98 to '99)	
	Equity Prices (Xetra Dax)	12.6	27.8	-5.4
		('91-'94)		
	Housing Prices	4.0	3.5	6.8
		('91-'95)	('96-'00)	('01-'04)
Producer Prices	2.3	1.1	1.4	
	('91-'95)	('96-'00)	('01-'04)	
Consumer Prices	3.2	1.6	2.2	
	('91-'95)	('96-'00)	('01-'04)	
World	Consumer Prices	22.3	8.3	3.8
	Consumer Prices – Advanced Countries	3.8	2.0	1.9
	Consumer Prices – Emerging Markets	12.9	7.6	4.3
	Non-Oil Commodity Prices	-6.1	-4.0	1.9

1. Policy rates are in per cent, and growth rates are annual average growth (in per cent).  
Source: International Financial Statistics, World Economic Outlook, IMF; and relevant central banks' web-sites.

The policy accommodation pursued until recently by the US has had a global impact, flooding the rest of the world with an abundance of liquidity (Table 5). Low interest rates in the US have encouraged capital to flow into emerging market economies. For the countries that prefer some form of managed parity against the US dollar this has resulted in a large build-up of foreign exchange reserves and excessive domestic liquidity, amplifying the Fed's policy stance. Yet, the global supply of dollars reflected in the so-called 'super money' (i.e., the sum of cash and banks' reserve holdings at the Fed plus foreign reserves held by central banks around the world) is estimated to have grown by around 25 per cent per annum in the last couple of years (*The Economist*, September 30, 2004).

**Table 5: Policy Rates, Money Supply Growth, Producer and Consumer Inflations in Select Emerging Asian Countries<sup>1</sup>**

		(Per cent per annum)		
		1990-94	1995-99	2000-04
China	Bank Rate	8.5	7.2	3.0
	Money Supply	27.6	19.1	16.2
	Reserve Money	28.8	15.5	12.4
	Consumer Prices	10.4	5.2	1.0
	Credit	26.5	20.0	16.5
India	Policy Rate	11.4	10.6	5.9
	Money Supply	18.0	13.3	14.0
	Reserve Money	16.9	11.4	11.5
	Producer Prices	10.5	5.5	5.2
	Consumer Prices	10.2	8.9	3.9
	Credit	13.3	14.9	14.3
Thailand	Discount Rate	10.5	10.0	3.5
	Money Supply	20.4	9.1	4.6
	Reserve Money	16.1	20.4	8.1
	Producer Prices	2.8	4.5	3.8
	Consumer Prices	4.8	5.1	1.7
	Credit	24.2	8.5	0.8
Malaysia	Money market rate	6.5	6.4	2.7
	Money Supply	17.9	14.6	7.3
	Reserve Money	21.9	10.9	2.1
	Producer Prices	2.5	3.6	3.5
	Consumer Prices	3.8	3.5	1.5
	Credit	12.7 ('93-'94)	16.4	5.9
Korea	Discount rate	6.2	4.2	2.5
	Money Supply	18.2	7.2	9.2
	Reserve Money	14.7	4.2	6.7
	Producer Prices	3.1	4.4	1.9
	Consumer Prices	7.0	4.4	3.2
	Credit	18.1	17.3	12.0
Philippines	Discount Rate	12.0	11.5	8.0
	Money Supply	14.6	20.3	7.8
	Reserve Money	13.8	15.5	1.6
	Producer Prices	4.1 ('94)	6.0	9.6
	Consumer Prices	11.1	7.0	4.6
	Credit	40.2	19.8	6.5
Indonesia	Discount Rate	14.4	19.6	12.2
	Money Supply	16.0	22.5	17.0
	Reserve Money	16.9	41.7	15.3
	Producer Prices	5.9	28.1	8.0
	Consumer Prices	8.6	20.5	8.0
	Credit	27.4	29.0	10.6

1. Policy rates are in per cent, and growth rates are annual average growth (in per cent).

Source: International Financial Statistics, IMF.

The global glut of liquidity has facilitated highly leveraged positions, debt financed consumption and booming credit growth, raising financial stability



concerns. While the equity prices shot up in the second half of the 1990s, they came down subsequently in the wake of dotcom crash. Facilitated by the policy accommodation in the US and the subsequent easing in the rest of the world, the housing prices have now witnessed a boom during 2000-04 all over the world.

Perhaps the greatest puzzle in current global developments is the co-existence of abundant liquidity and low consumer inflation. Despite the prolonged period over which monetary policy all over the world has remained accommodative, inflation has been unusually benign, impervious to soaring oil prices and the elevated prices of non-fuel commodities particularly ferrous and non-ferrous metals. While the industrial countries have maintained the inflation pressures at low and stable levels both during 1995-99 and 2000-04, there has been noticeable decline in inflation during 2000-04 in emerging markets economies. Such low levels of inflation have not been witnessed since the pre-World War period when the discipline of the fixed exchange rates under the gold standard ensured that prices were roughly stable and episodes of deflation were not uncommon. The current phenomenon is unique in recent history, prompting some to visualize the death of inflation though there are signs of its resurrection in recent weeks.

#### *Slowdown in Global Saving and Investment vs. Strong Global Growth*

Global saving and investment rates have declined in recent years. Global saving increased by a fraction in 1995-99 from the level in 1990-94 before declining in 2000-04 (Table 6). While saving as per cent of GDP declined in the U.S, U.K and European Monetary Union (EMU) in 2000-04 from the level in 1995-99, the same in China and India witnessed an increase. The declining savings in the industrial countries could have its demographic roots with aging population weighted against higher saving (Mohan, 2004c).

Alongside, the world investment rate declined steadily during the period, ignoring the signals of softening interest rates. Investment in US, UK and European Monetary Union (EMU) fell during 2000-04 with increasing risk aversion on the part of the corporates in the wake of the dot com and other financial crises in 1990s. Investment rate has improved in China during 2000-04 while it has declined in India during 2000-03.

Notwithstanding the declining saving and investment rates, global growth has continued its surge from period to period. While consumption has arguably played a critical role in the industrial countries' growth momentum, exports might have played a similar role in the emerging markets. The sustenance of consumption as opposed to investment-led growth has thus given rise to new controversies on present versus future allocation of resources as also on the relevance of overlapping generation outlooks.

**Table 6: Global Savings and Investment**

	1990-94	1995-99	2000-04
<b>GDP Growth</b> (per cent)			
World	2.6	3.7	3.8
EMU	1.9	2.4	1.7
US	2.4	3.9	2.8
UK	1.3	3.0	2.6
India	4.9	6.5	5.7
China	10.7	8.8	8.5
<b>Saving</b> (As per cent of GDP)			
World	22.0	22.3	21.4
EMU	22.5	22.8	22.5
			(up to 2003)
US	16.2	17.6	15.2
			(up to 2002)
UK	15.8	16.6	14.2
			(up to 2003)
India	22.4	21.7	22.2
China	39.7	42.1	43.6
<b>Investment</b> (As per cent of GDP)			
World	23.0	22.7	21.6
EMU	22.0	20.8	20.7
			(up to 2003)
US	17.1	19.3	19.1
			(up to 2002)
UK	17.1	17.3	16.9
			(up to 2003)
India	22.9	23.2	22.7
			(up to 2003)
China	38.0	38.8	40.8

Source: World Economic Outlook, IMF and World Development Indicators On-Line, World Bank.

### *Low Inflation despite Currency Depreciations*

Traditionally, the degree of exchange rate pass-through, i.e., the speed and extent of transmission of exchange rate movements into domestic prices used to be an important consideration for the conduct of monetary policy, leading to the alleged "fear of floating" on the part of the emerging economies (Calvo and Reinhart, 2002). However, there is now increasing evidence that exchange rate pass-through to domestic inflation has tended to decline from the 1990s across a number of countries. Inflation has turned out to be largely immune and insensitive, barring the sole exception of Indonesia, to the wild volatility and currency depreciation witnessed in Korea, Thailand, the Philippines and Malaysia in the aftermath of the Asian financial crisis (Table 7).

Similarly, the US dollar's substantial depreciation against the euro during 2002-2004 has not led to inflationary pressures in the US. With inflation standing rock steady even in the face of exchange rate volatility, the traditional channels of current account adjustment have failed to work towards restoring the external balances in a sustainable manner. Further, the weakening of the US dollar against the euro has not brought about substantial changes in the trade pattern between the US and euro area. On the contrary, the US imports from euro area

surged ahead during the phase of US dollar's depreciation against euro while the US exports to euro area did not increase, at least initially (Table 8).

**Table 7: Exchange Rates and Consumer Prices Inflation –  
Select Asian Countries during the Crisis**

Year	1996	1997	1998	1999	2000	
Korea	Exchange Rate	805 (4.3)	951 (18.3)	1401 (47.3)	1189 (-15.2)	1131 (-4.9)
	CPI Inflation	4.98	4.40	7.54	0.83	2.25
Thailand	Exchange Rate	25 (1.7)	31 (23.8)	41 (31.9)	38 (-8.6)	40 (6.1)
	CPI Inflation	5.83	5.60	8.07	0.30	1.57
Philippines	Exchange Rate	26 (1.9)	29 (12.4)	41 (38.8)	39 (-4.4)	44 (13.1)
	CPI Inflation	7.51	5.59	9.27	5.95	3.95
Malaysia	Exchange Rate	2.52 (0.5)	2.81 (11.8)	3.92 (39.5)	3.80 (-3.2)	3.80 (0.0)
	CPI Inflation	3.49	2.66	5.27	2.75	1.54
Indonesia	Exchange Rate	2342 (4.2)	2909 (24.2)	10014 (244.2)	7855 (-21.6)	8422 (7.2)
	CPI Inflation	7.97	6.23	58.39	20.49	3.72

Note: (1) Exchange Rates are National currencies per US dollar.

(2) Figures in bracket are the percentage changes over the previous year.

(3) CPI Inflation rates are annual percentage changes

Source: WEO and IFS, IMF.

**Table 8: Exchange Rate, Trade and Consumer Prices Inflation –  
Recent Trends in the U.S**

Year	2000	2001	2002	2003	2004
NEER (2000=100)	100	105.94	104.28	91.46	83.97
REER (2000=100)	100	103.61	105.18	95.56	86.1
Exchange Rate (US \$ per euro)	0.924 (-13.4)	0.896 (-3.0)	0.944 (5.4)	1.131 (19.8)	1.243 (9.9)
CPI Inflation (per cent)	3.38	2.83	1.59	2.27	2.68
Imports from euro area (US \$ Million)	226,901 (13.42)	226,568 (-0.15)	232,313 (2.54)	253,042 (8.92)	281,959 (11.43)
Exports to euro area (US \$ Million)	168,181 (8.63)	161,931 (-3.72)	146,621 (-9.45)	155,170 (5.83)	172,622 (11.25)

Figures in bracket are the percentage changes over the previous year.

Source: WEO and IFS, IMF and US Census Bureau.

### III. Possible Explanations

What factors explain these seeming puzzles and counter-intuitive relationships across a large set of variables? What really explains the divergence between the PPI and CPI and the imperviousness of consumer prices to liquidity conditions? Is the received wisdom on the relationship between money, output and prices undergoing yet another paradigm shift? Has the inflation process changed at its core? Country experiences present a wide diversity of circumstances, producing a variety of outcomes. This makes generalizations difficult and even adventurous. Central bankers are not known to be adventurous, but this opportunity of delivering a dinner speech has emboldened me.

As a central banker, I would like to subscribe to the objective of low and stable inflation in the conduct of monetary policy. Reforms in the manner in which monetary policy is set currently, and the institutional changes that have occurred in the 1990s have undoubtedly enhanced the reputation of monetary authorities in terms of delivering price stability. The current trend of increasingly independent central banks, enhanced transparency and greater accountability has, in fact, improved public credibility in these institutions. The institutional strengthening of central banks has coincided with the worldwide thrust on fiscal consolidation and structural reforms in the labour and product markets, which have also worked towards attaining price stability. Specified fiscal rules such as those under the Maastricht Treaty and the Stability and Growth Pact in the euro area have been emulated the world over, charting out explicit road maps for fiscal consolidation. Thus, fiscal deficits in emerging market economies are now less than half of their levels in 1970s and 1980s. It has been estimated that inflation could have declined by 5-15 percentage points on account of lower fiscal deficits in emerging market economies (IMF, 2002). So there are some broad structural fiscal reasons for the world wide decline in inflation.

Globalisation has arguably unleashed the most significant anti-inflationary forces. Lower trade barriers, increased deregulation, innovation and competition all over the world have led to exponential growth in cross-border trade with world trade racing ahead of output. With the rapid expansion in tradables domestic economies are, therefore, increasingly exposed to the rigours of international competition and comparative advantage, reducing unwarranted price mark-ups (Greenspan, 2004b). The competition among nations to attract and retain factors of production has also induced governments to reduce entry barriers for new productive activities. Intensified competition in the domestic economy, which has now become part of the global market-place has rendered prices more flexible, containing the impact of unanticipated inflation on output. This has reduced the incentive for monetary authorities to raise output above the potential (Rogoff, 2003). Increasingly, a firm or country that can produce for global markets, with the greatest cost efficiency, sets global prices. Currently, China is perhaps in such a position but other competitors are not far behind. It, however, needs to be recognized that globalisation may not continue to maintain its tempo indefinitely into the future.<sup>1</sup>

An important contributor to low inflation has also been the productivity growth in a number of sectors, partly due to IT investments combined with restructuring. Even the services sector, which was otherwise believed to lag in

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<sup>1</sup> It is instructive to turn to Chairman Greenspan, who said, "We have not experienced a sufficient number of economic turning points to judge the causal linkages among increased globalization, improved monetary policy, significant disinflation and greater economic stability" (Greenspan, 2004b).

productivity vis-à-vis industry in view of its 'cost disease' syndrome, *a la* Baumol, has witnessed impressive productivity growth with increased penetration of IT in most services activities. Productivity growth has been particularly discernible in the US from the mid-1990s with continuing signs of sustenance in the next decade (Oliner and Sichel, 2002). While productivity growth in the euro area may not have been as high as in the US, the disinflationary effects of productivity growth in one region get transmitted across borders through increased competition in a globalised world (Table 9).

**Table 9: Productivity in Manufacturing\***

	(Annual percentage change)		
	1987-96	1997-1999	2000-2004
Advanced economies	3.1	3.37	3.76
US	2.8	3.97	4.96
UK	3.4	3.47	4.42
Euro area	...	4.13	2.88
Japan	2.7	1.57	3.62

\*: Refers to labour productivity, measured as the ratio of hourly compensation to unit labour costs.

Source: World Economic Outlook, IMF.

The impact of cross-country integration is also at work in the labour market. An economy which is open to migrant labour exhibits a different inflationary process from one that is not. An increase in spending raises the pressure of demand on supply and leads to upward pressure on wages and prices. But if the increased demand for labour generates its own supply in the form of migrant labour then the link between demand and prices is broken, or at least altered. Indeed, in an economy that can call on unlimited supplies of migrant labour or can go for outsourcing, the concept of output gap may not be that meaningful (King, 2005). The inflow of migrant labour both in the US and UK has arguably led to a diminution of inflationary pressure in the labour market in these countries (Table 10).

**Table 10: Net Migration to US and UK\***

	1985-1990	1990-1995	1995-2000
US	3,775,000	5,200,000	6,200,000
UK	104,310	380,840	574,470

\*: Number of immigrants less the number of emigrants, including both citizens and noncitizens.

Source: World Development Indicators on Line, World Bank.

The expanding canvas of knowledge has also had its impact in the form of low and stable inflation. The technological advances in architecture and engineering as well as development of lighter but stronger materials has resulted in "downsized" output, evident in the huge expansion of the money value of output and trade but not in tonnage. As a consequence, material intensity of production has declined reflecting, "the substitution, in effect, of ideas for physical matter in the creation of economic value" (Greenspan, 1998). This has

contributed to the secular decline in commodity prices, notwithstanding short spells of spikes in these prices. The increasing commodity price volatility around the declining trend has, however, engaged the monetary policy attention in the short-run (Mohan, 2004a). The declining share of commodity prices in final goods prices has been an important factor, leading to a divergence between PPI and CPI. Thus even substantial increases in input prices no longer lead to corresponding increases in output prices and are further muted by the forces of global competition.

Thus the persistence of low and stable inflation worldwide despite considerable monetary accommodation in recent years can be explained by invoking these new economic developments in the real economy. The role of central banks in the recent containment of inflation can, at best, be seen to have limited applicability.

For industrial countries, the exchange rate pass-through to consumer price inflation has been found to have almost halved in the 1990s compared to the pre-1990s period (Gagnon and Ihrig, 2001; McCarthy, 2000). Furthermore, the pass-through has reportedly declined more in developing countries in the 1990s than in the advanced economies (Frankel, Parsley and Wei, 2004). Financial innovations such as the availability of hedging products have also lowered the degree of pass-through by enabling exporters and importers to ignore temporary shocks and set stable product prices despite large currency fluctuations: Witness the lack of price change in BMWs, Mercedes and Porsches in the United States despite substantial dollar depreciation with respect to the euro. The import composition of the industrial countries is found to have shifted in favour of sectors with low pass-through such as the manufacturing sector. There is also a view that, in some cases, the low observed pass-through might be due to disappearance of expensive goods from consumption and their replacement by inferior local substitutes (Burstein, Eichenbaum and Rebelo, 2003): i.e., no more Mercedes and BMWs!

The increasing share of non-tradables in GDP has also worked towards containing the exchange rate pass through. Non-tradables generally approximated by services have increased their share in all major industrial countries as also in China and India. As populations age, demand moves more in favour of services than for goods. Thus, the aging population in industrial countries has provided much of the growth impetus for services. With the shift in demand composition in favour of services, no wonder, the extent of exchange rate pass-through, which works primarily through tradables has been limited (Table 11).

The role of exchange rate movements or policy induced adjustments in influencing behaviour of economic agents through the domestic price mechanism appears to have been significantly truncated. If an exchange rate depreciation (appreciation) does not appreciably increase (decrease) domestic prices of imported goods, there would be little reason to expect a reduction (increase) in demand for imported products. Hence small exchange rate changes can scarcely be expected to help significantly in effecting changes in the current account.

There has been reduced volatility of GDP growth in most G-7 countries over the past three decades, coinciding with growing integration and synchronization of business cycles (Mohan, 2004a). The standard deviation of US GDP growth during 1984-2002 was two-thirds of that during 1960-83. This

could have also contributed to lowering inflation (Stock and Watson, 2003). The growing share of services - a sector less susceptible to volatility - better inventory management, and easy access to credit with financial deepening, have also brought down the volatility of GDP growth and, therefore, expectations of future inflation.

**Table 11: Share of Services in GDP**

(Per cent)

Country	1990-94	1995-99	2000-04
US	71.71	72.89	74.65 (up to 2001)
UK	65.55	67.91	71.62 (up to 2003)
Japan	60.26	64.92	67.45 (up to 2002)
Euro area	64.25	67.24	69.21 (up to 2003)
China	32.74	31.36	33.72
India	42.16	45.14	50.44

Source: World Development Indicators on Line, World Bank.

The global financial landscape has undergone a sea change over the last couple of decades, characterized by increasing liberalization and growing completeness of markets and institutions. The pursuit of flexible exchange rates for the major currencies from the 1970s has made the spot and forward foreign exchange markets strikingly efficient in tracking the expectations of economic agents. Alongside, the broadening and deepening of the secondary and derivatives markets for government and other fixed income securities has added to the flows of market information. With the onset of de-mystification and decomposition of risks, there has been a deluge of new financial products, enabling economic agents to manage, hedge or lay off risks. Simultaneously, there has been discernible improvement in the institutional infrastructure - legal or informational - providing a durable basis for efficient functioning of the financial markets. With the arrival of options pricing in the early 1970s, more and more complex financial products are hitting the market every day. Financial markets - at least in the industrial countries - have, thus, transformed themselves into super-efficient vehicles for allocating resources and spreading risks across sectors, time and space. The lower costs of financial intermediation, the greater scope for risk spreading, and the reduced reliance on any individual institution or market channel for the intermediation of savings and investment have had a spurring effect on financial activities undertaken by households, businesses and governments. Thus, the global financial system appears to be more robust and resilient to financial shocks emanating from individual countries. Certainly, the increasing confidence of the financial system has its reflection in the sustained global growth and taming of inflation all over world (Blinder and Reis, 2005). The growing sophistication of financial markets has therefore, paradoxically,

reduced the power of the price mechanism in bringing about changes in a desired policy direction.

It is, therefore, possible that such developments in financial markets have had the effect of reducing risks across the board, both spatially and temporally. Such developments have received further support from the increased focus of central banks on inflation containment and stability, along with overall financial stability. The accompanying institutional changes, mainly the increased acceptance of central bank autonomy, have probably contributed to enhancement of their credibility. Thus there could be a secular decline in risk perception and in medium and long term inflationary expectations, thereby reducing the neutral real interest rate. If these conjectures have some element of validity, the effect of changes in short term policy rates on long term yields would be muted, as seems to have happened in the United States. Paradoxically then, the central banks' own success could have blunted the efficacy of their most powerful policy instrument: the short term interest rate.

As regards the muted impact of soaring oil prices on the general price level and economic activities, it needs to be recognized that unlike in the past when oil price surges were driven by supply shocks, the current bull market in oil is mainly the result of a perceived secular increase in demand emanating from accelerated growth in our countries, which, moreover, is expected to continue in the foreseeable future. The sharp rise in oil prices is perceived to have been triggered by sustained global growth, particularly in the US among developed countries, and from increasing contributions from the emerging market economies that tend to demand relatively more oil than the developed world for a similar expansion in output. The higher oil prices of the 1970s brought to an abrupt end the extraordinary period of growth in US oil consumption. Between 1945 and 1973, consumption of petroleum products in the U.S rose at a startling 4.5 per cent average annual rate, well in excess of real GDP growth. However, between 1973 and 2004, oil consumption in the U.S grew, on an average, only 0.5 per cent per annum, far short of the rise in real GDP (Greenspan, 2005b). The mandated fuel-efficiency standards for cars and light trucks coupled with the imports of small, fuel-efficient Japanese cars and the increasing share of services sector in GDP induced slower growth of gasoline demand in the US. Thus, while the oil intensity of output has fallen in the industrial countries, e.g., from the peak of 0.19 Kg per real US dollar in the US in 1970 to 0.09 Kg per real US dollar in 2000, the relatively slower decline for developing countries such as China and India has been neutralized by the pace of rise in incomes (Table 12).

Unlike the oil shocks of the 1970s, when the oil surplus with the oil exporting countries mainly found its way out into conspicuous consumption, this time around, the oil exporting countries seem to be doing a much better job of recycling the oil surpluses into the global economy. For example, the OPEC countries are running only a marginal trade surplus with China as they are importing a range of goods from China, which is using more oil to manufacture those goods. Oil exporting countries have also been active in the international investment arena, using their export revenue to buy stocks and bonds in various countries, thereby keeping the global cost of capital low.



**Table 12: Oil Intensity in Select Countries (Using Constant US \$ GDP)**

	(Kg. of oil per real US \$)				
	1970	1980	1990	2000	2003
World	0.18	0.17	0.13	0.11	0.11
US	0.19	0.15	0.11	0.09	0.09
UK	0.14	0.09	0.07	0.05	0.05
Japan	0.11	0.09	0.06	0.05	0.05
France	0.15	0.13	0.08	0.07	0.07
Germany	0.15	0.12	0.08	0.07	0.07
India	0.17	0.21	0.22	0.23	0.21
China	0.30	0.52	0.27	0.21	0.19
Malaysia	0.24	0.32	0.29	0.23	0.22
Indonesia	0.27	0.37	0.30	0.33	0.32
Philippines	0.27	0.23	0.20	0.22	0.18
South Korea	0.14	0.20	0.17	0.20	0.18
Thailand	0.27	0.31	0.25	0.28	0.28
Brazil	0.14	0.14	0.13	0.14	0.13
Mexico	0.11	0.14	0.16	0.15	0.14

Source: British Petroleum's Statistical Review of World Energy and World Development Indicators On Line, World Bank.

Furthermore, the self-equilibrating demand-supply mechanism in the face of the rising oil prices has been kept in abeyance in a number of countries. While the current oil cycle has witnessed a doubling in the price of oil over the past three years, on average only a third of the price increase has been passed on to end users. While Europe and Japan have cut down high taxes on oil consumption to cushion the impact of higher oil prices, governments in many developing countries are subsidizing oil prices in recognition of the lower resilience of low income people to sudden price shocks. "But if history is any guide, should higher prices persist, energy use will over time continue to decline, relative to GDP. Long-term demand elasticities have proved noticeably higher than those that are evident in the short term" (Greenspan, 2005b). Nevertheless, since oil use is only two-thirds as important an input into world GDP as it was three decades ago, the effect of the current surge in oil prices, though noticeable, is likely to prove significantly less than in 1970s.

The entry into the world economy of the erstwhile centrally planned economies, in general, and China, in particular, has arguably constituted a massive positive supply shock, raising the world's potential growth, holding down inflation and triggering changes in the relative prices of labour, capital, goods and assets (BIS, 2005). In this context, the desirability of positive inflation rates has been questioned in certain circles. In other words, are central banks targeting too high a rate of inflation now that China has joined the global market economy?

During the era of rapid globalisation in the late 19th century, falling average prices were quite common. This "good deflation", which was accompanied by robust growth, was very different from the bad deflation experienced in the 1930s depression. Today, we could have been in yet another phase of "good deflation" but central banks have favoured low but positive interest rates while setting and meeting their inflation targets. Furthermore,

China's entry into the global economy has raised the worldwide return on capital. That, in turn, should imply an increase in the equilibrium level of real interest rates. But, central banks are holding real rates at historically low levels and one finds scenarios of excessive credit growth, mortgage borrowing and housing investment. In this context, however, some estimates suggest that the impact of Chinese exports on global inflation has been fairly modest. China's exports could have reduced (i) global inflation by 30 basis points per annum; (ii) US import price inflation by 80 basis points (but in view of the US being a relatively closed economy, the impact on producer and consumer prices has likely been quite small); and (iii) import unit values inflation by 10-25 basis points in the OECD countries (Kamin, Marazzi and Schindler, 2004). These estimates should be treated as upper bounds since they ignore the fact that China's rapid export growth has also been associated with equally rapid import growth and China is, therefore, contributing not only to global supply but also global demand. This is also reflected in the sharp rise in global commodity prices beginning early 2003.

#### **IV. The Way Ahead**

Measured by the growth in global credit or property prices, some parts of the world are currently experiencing strong asset price inflation. As with traditional inflation, the surging asset prices distort relative prices and cause a misallocation of resources. For instance, since households think they are wealthier, they spend more and save and invest less. The risk is that as interest rates rise, the fragility of the economic recovery would be exposed and decisions based on cheap credit would look less than wise.

Whereas there is no question about the desirability of maintaining financial stability, monetary policy is often considered to be too blunt an instrument to achieve financial stability, especially to counter threats from asset price misalignments. Indeed, it is often difficult to adjudge *ex ante* as to whether asset price misalignments are bubbles or not. Second, even if the bubble is identified on a real time basis, the typical monetary tightening measures such as increase in interest rates may not be effective in deflating asset price bubbles.

In view of such limitations of monetary policy actions as also the fact that inflationary pressures take more than the usual time to surface in conditions of low inflation, central banks need to take cognizance of emerging financial imbalances by lengthening their monetary policy horizons beyond the usual two-year framework. More importantly, in view of the possibility of the role of prices becoming muted as an equilibrating mechanism, whether in terms of changes in exchange rates, interest rates or commodity prices, central banks will have to contribute to financial stability more through prudential regulation and supervision to address the emergence of financial sector excesses or imbalances arising from excess liquidity or other economic imbalances. Indeed, greater transparency and cooperation between monetary policy and supervision is being increasingly recognized and many central banks are exploring alternatives as opposed to the traditional monetary policy instruments.

Given the fact that the defining characteristic of the monetary policy landscape is 'uncertainty', no *simple* rule could possibly describe the policy action to be taken in every contingency (Greenspan, 2004a). As a consequence, the conduct of monetary policy has come to involve, at its core, crucial elements of risk management. This conceptual framework emphasizes understanding as

much as possible the many sources of risk and uncertainty that policymakers face, quantifying those risks when possible, and assessing the costs associated with each of the risks.

Under these conditions, the separation of the function of financial regulation and supervision from central banking has come up for critical reappraisal. Even though a formal separation of functions may have become more common than in the past, there remains a question whether that change would make much difference to the practical realities (Goodhart, 1995). In their quest for financial stability, central banks worldwide have exhibited a variety of responses. On the one hand, several central banks have been given an explicit mandate to promote financial stability. Another broad category of response has been the constitution of independent departments to oversee financial stability. Illustratively, at the Reserve Bank of New Zealand, the banking supervision department and financial markets department were merged into a Financial Stability Department, headed by a Deputy Governor. In the Netherlands, the newly established Financial Stability Division concentrates experienced staff members from monetary policy, supervision, financial markets, oversight and research departments. At the ECB, the area concerned with financial stability matters (Prudential Supervision Division) was upgraded to a Directorate (Financial Stability and Supervision), which reports to a member of the Executive Board, and plays a coordination role for euro area/ EU financial stability monitoring. Finally, the Bank of England has recently constituted a dedicated Financial Stability Department for oversight of financial stability matters. The transfer of supervisory responsibilities outside the central bank in several countries has also led central banks to focus their attention on systemic issues as reflected in a reorientation of organisational arrangements.

The traditional signals such as inflation, interest rates and exchange rates are today overly anchored while the global economy is on a long leash supported by easy finance. However, the increasing potential for sharp corrections in the medium term needs to be contained by following a two-fold strategy: consumption needs to give way smoothly to investment with the withdrawal of policy accommodation in industrial countries, and the locus of domestic demand needs to shift from countries running deficits to ones with surpluses so as to reduce the current account imbalances. Obviously, coordinated policy initiatives have to be high on the agenda of the global community for ensuring a smooth transition.

If it is indeed true that the efficacy of price based indirect monetary policy instruments has become blunted because of central banks' own success in containing inflation and muting expectations, along with the increasing sophistication of financial markets, what alternatives do we now have to address the emerging global imbalances? Ironically, the answer perhaps is that we may need to return to more quantity based instruments, either through micro actions by central banks or structural actions by the fiscal authorities. Central banks would perhaps have to again resort to activating more detailed prudential, regulatory and supervisory roles aimed at disciplining different segments of the financial markets. Similarly, if external imbalances are perceived to arise because of fiscal imbalances, they will have to be attacked directly, rather than through increasingly ineffective exchange rate signals.

This finally gives me an opportunity to provide some illustrations from recent monetary management actions in China and India.

The People's Bank of China has been trying to contain the possible downside risks by way of a range of direct and indirect instruments. Required reserve ratios have been lifted several times, within the context of a newly differentiated reserve requirement system aimed at better aligning the degree of restraint with the degree of excess credit expansion, institution by institution. Moral suasion has been used with "window guidance" and "credit policy advice" in relation to credit allocation including warnings on the riskiness of increasing exposures to certain overheated sectors. Benchmark interest rates were increased by about 0.3 percentage points in October 2004. At the same time, the upper limit on interest rates charged by commercial banks was abolished, and the limits for urban and rural cooperatives was increased to 2.3 times the benchmark rate. The interest rates that the PBC charges for providing short term liquidity support were increased by between 0.3 and 0.6 percentage points, and the PBC was given additional room to adjust these rates according to economic and financial conditions. PBC has also continued its sterilisation operations by way of changes in reserve ratios, open market operations and issuance of central bank bills in the wake of strong forex inflows. China has also revalued its currency and the yuan now floats against a basket of currencies. This policy of having greater flexibility in the exchange rate would allow monetary authorities to guard against the risk of any further increase in inflation in both product and asset markets. Thus, as I understand it, China has used a judicious mix of traditional monetary instruments, along with a selection of detailed prudential and regulatory instruments to deal with the possibility of overheating in the economy.

In India, monetary management has had to contend with testing challenges on several fronts - an increase in domestic prices in the first half of 2004 driven largely by a sustained increase in international commodity prices including fuel, a large overhang of domestic liquidity generated by capital inflows and the upturn in the international interest rate cycle. The Reserve Bank of India has, therefore, had to strike a fine balance between reining in inflationary expectations, encouraging the impulses of growth and ensuring financial stability. In early 2004, it was recognised that the finite stock of Government paper with the Reserve Bank could potentially circumscribe the scope of outright open market operations for sterilising capital flows which were last carried out in January 2004. The Reserve Bank cannot issue its own paper under the extant provisions of the Reserve Bank of India Act, 1934 and such an option has generally not been favoured in India. Central bank bills/bonds would impose the entire cost of sterilisation on the Reserve Bank's balance sheet. Besides, the existence of two sets of risk-free paper - gilts and central bank securities - tends to fragment the market. Accordingly, the liquidity adjustment facility (LAF), which operates through repos of government paper to create a corridor for overnight interest rates and thereby functions as an instrument of day-to-day liquidity management, had to be relied upon for sterilization as well. Under these circumstances, the Market Stabilisation Scheme (MSS) was introduced in April 2004 to provide the monetary authority an additional instrument of liquidity management and sterilisation. Under the MSS, the Government issues Treasury bills and dated government securities to mop up domestic liquidity and parks the proceeds in a ring-fenced deposit account with the RBI. The funds can be appropriated only for redemption and/or buyback of paper issued under the MSS. Besides an increase in the MSS ceiling, raising of the cash reserve ratio (CRR), lowering the rate of remuneration on the eligible CRR balances, hikes in the reverse repo rate by 25 basis points each in October 2004, April 2005 and October 2005, several measures were also initiated to maintain asset quality of the banking system at a time of rapid credit growth.

The runaway oil prices riding on the back of growing demand in a cyclical upturn are currently looming large on the pace and pattern of the growth performance in both the economies. While the economies have so far absorbed the oil shocks in their stride and with surprising resilience, continuing uncertainties on the oil front, however, pose a question mark on their sustained performance. Paradoxically, the reserves build-up with the Asian central banks, with its attendant cost implications has started slowing down of late with the soaring oil prices cutting into the oil importers' trade and current account surpluses. However, the growing transfer on account of oil portends yet another risk in terms of the sustenance of current accounts. Besides, FDI and portfolio inflows are also showing signs of fatigue in several Asian countries with the hardening of the rates in the US. With sudden reversals of expectations, the Asian economies thus, run the risk of disruption in their financial and real markets.

Several countries in Asia have followed a relatively flexible exchange rate policy to ensure smooth adjustment along with corrections in the world economy. Such flexibility has served these countries well. However, the world has to guard against any new risks arising out of any large corrections in the exchange rates of the world's major currencies accompanied by rising inflation and interest rates (Mohan, 2004b). First, the protectionist tendencies need to be curbed in keeping with the multilateral spirit of trade negotiations. Second, we need to work collectively towards developing a sound international financial architecture, the lack of which, it may be recalled, has led to excessive caution on the part of developing countries in building large reserves. Third, given the need for financial stability alongside monetary stability, central banks need to be cautious before joining the recent trend of separating the monetary and supervisory authorities, particularly in view of the muted responses to the pricing channels of monetary policy. In the recent past, faced with an unprecedented rise in housing credit, the Reserve Bank of India has raised the risk weight of housing loans as a counter cyclical action for the purpose of maintenance of capital to risk assets ratio. It is felt that availability of prudential instruments at the disposal of a central bank facilitates its twin task of monetary and financial stability.

## References

- Bank for International Settlements (2005): *Annual Report, 2004-05*, Basel: BIS.
- Bernanke, Ben S.(2005): "The Global Saving Glut and the U.S. Current Account Deficit". At the Sandridge Lecture, Virginia Association of Economics, Richmond, Virginia, March 10, 2005.
- Blinder, Alan S. and Ricardo Reis (2005): "Understanding the Greenspan Standard", Federal Reserve Bank of Kansas City Symposium, Jackson Hole, Wyoming, September 12, 2005.
- Burstein, Ariel, Martin Eichenbaum, and Sergio Rebelo (2003): "Why Is Inflation So Low After Large Devaluations?". *Mimeo*, Northwestern University.
- Calvo, Guillermo A. and Carmen M. Reinhart (2002): "Fear Of Floating". *The Quarterly Journal of Economics*, Vol. 117, No.2, May.
- Fama, E. F (1986): "Term Structure Forecasts of Interest Rates, Inflation, and Real Returns". *Journal of Monetary Economics*, 25, 59-76.
- Faruqee, Hamid (2004): "Exchange Rate Pass-Through in the Euro Area: The Role of Asymmetric Pricing Behaviour". *IMF Working Paper* No. 04/14, 2004.
- Frankel, Jeffrey, David Parsley and Shang-Jin Wei (2004): "Slow Pass-through around the World: A New Import for Developing Countries?" *Mimeo*, Harvard University.
- Gagnon, J. E. and J. Ihrig (2001): "Monetary Policy and Exchange Rate Pass-Through". *International Finance Discussion Papers*. Number 704, Board of Governors of the Federal Reserve System, July 2001.
- Goodhart, C (1995): *The Central Bank and the Financial System*, Macmillan, 1995.
- Greenspan Alan (1998): "The Implications of Technological Changes", Remarks at the Charlotte Chamber of Commerce.
- \_\_\_\_\_ (2004a): "Risk and Uncertainty in Monetary Policy", Remarks at the Meetings of the American Economic Association, San Diego, California.
- \_\_\_\_\_ (2004b): "Current Account". Remarks before the Economic Club of New York
- \_\_\_\_\_ (2005a): Testimony before the Committee on Banking, Housing, and Urban Affairs, US Senate, February 16, 2005.
- \_\_\_\_\_ (2005b): "Energy". Remarks before the Japanese Business Federation in Tokyo, 2005.
- International Monetary Fund (2002): *World Economic Outlook*, Washington DC: IMF.
- International Monetary Fund (2005): *World Economic Outlook*, Washington DC: IMF.
- Kamin, Steven B., Mario Marazzi and John W. Schindler (2004): "Is China Exporting Deflation"? *International Finance Discussion Papers* No.791 Board of Governors of the Federal Reserve System.
- King, Mervyn (2005): Speech delivered at Salts Mill, Bradford, Yorkshire, June 13, 2005.

- McCarthy, Jonathan (2000): "Pass-Through of Exchange Rates and Import Prices to Domestic Inflation in Some Industrialised Economies", *Federal Reserve Bank of New York Staff Reports No. 111*.
- Mishkin, F.S (1991): "A Multi-Country Study of the Information in the Shorter Maturity Term Structure about Future Inflation". *Journal of International Money and Finance*, 10, 2-22.
- Mohan, Rakesh (2004a): "Challenges to Monetary Policy in A Globalising Context", *RBI Bulletin*, January 2004.
- \_\_\_\_\_ (2004b): "Orderly Global Economic Recovery: Are Exchange Rate Adjustments Effective Any More?", Intervention at the G-20 Deputies Meeting at Leipzig, Germany, March 3-4, 2004.
- \_\_\_\_\_ (2004c): "Fiscal Challenges of Population Ageing: The Asian Experience", in Gordon Sella (ed.): *Global Demographic Change: Economic Impacts and Policy Challenges*, Proceedings of a Symposium sponsored by the Federal Reserve Bank of Kansas City, at Jackson Hole, Wyoming.
- Oliner, S., and D. Sichel (2002): "Information Technology and Productivity: Where Are We Now and Where Are We Going?" FRB Atlanta *Economic Review* (Summer) pp. 15-44.
- Rogoff Kenneth (2003): "Globalization and Global Disinflation", *Federal Reserve Bank of Kansas City Economic Review*, Fourth Quarter, pp. 45-79, 2003.
- Stock, James H. and Mark W. Watson (2003): "Has the Business Cycle Changed? Evidence and Explanations", Paper presented at a Conference on "Monetary Policy and Uncertainty: Adapting to a Changing Economy", sponsored by the Federal Reserve Bank of Kansas City, at Jackson Hole, Wyoming. August 2003.