
New issues in Indian macro policy

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1 The old world

For many decades, macro-policy in India was conducted in an environment with five key elements:

- *Agricultural shocks rather than a conventional business cycle* In the old India, there was no ‘business cycle’ in the conventional sense of the term. GDP growth was repeatedly thrown off trend by monsoon shocks. In a sheltered environment where competition from imports and from new entrants was blocked by the government, the behaviour of firms was not dominated by a forward-looking quest for profitable investment opportunities. The cyclical behaviour of profits, inventories, investment and prices, which is the essence of the ‘business cycle’ that is found in market economies, did not exist.
- *A closed economy* The old India was a closed economy with steep barriers against trade in goods, services and capital flows. As a consequence, the useful mental models of the macroeconomy were those that were rooted in a closed economy.
- *Deeply distortionary tax policy coupled with a fiscal crisis* The central gross fiscal deficit escalated from 3.3% in 1970-71 to 8.3% in 1986-87. The first task of macroeconomic policy was that of wrestling down the fiscal deficit, and averting a fiscal crisis. This process was complicated by the need to simultaneously shift away from a distortionary framework of tax policy towards efficient tax policy. This involved sometimes worsening the fiscal deficit in the quest for efficiency - as was the case with the phasing out of customs duties.¹
- *Financial markets that lacked speculative price discovery* Financial markets were prohibited, or dominated by government owned financial firms, or were vitiated by rules imposed by the government. Hence, key markets were afflicted with illiquidity and lacked forward-looking speculative price discovery. The role played by finance in a mature market economy - of converting expectations about the future into information used for decision-making by economic agents, and of driving the allocation of capital - was not being performed.
- *A monetary policy which was shaped by deficit financing* Fiscal deficits were partly funded through financial repression: by forcing financial firms to buy government bonds at below-market interest rates. In addition, deficit financing was done on a substantial scale. Monetary policy was, then, conducted in a closed-economy setting, with artificial interest rates, and a substantial scale of monetisation of deficits.

¹As an example of the tensions of undertaking a fiscal consolidation while simultaneously removing distortions, see Rajaraman (2004).

Table 1 Gross flows (current and capital accounts)

	(Billion USD)			(Percent to GDP)		
	Current	Capital	Total	Current	Capital	Total
1957	4.4	0.7	5.2	16.8	2.7	19.5
1967	6.2	3.5	9.6	13.3	7.4	20.7
1977	15.4	5.0	20.4	16.7	5.4	22.0
1987	38.3	14.6	53.0	17.3	6.6	23.9
1997	115.8	61.4	177.3	32.6	17.3	49.9
2007	501.1	408.1	909.3	60.6	49.4	110.0

In this article, we argue that India has changed beyond recognition on all these five elements. We argue that these changes have far-reaching consequences for the conduct of macroeconomic policy. The tried and true policy reflexes which worked well in the 1980s and 1990s are increasingly out of touch with the new realities. India is now a more conventional market economy, and there is a much bigger role for the great themes of macroeconomics - as it is practised elsewhere in the world - in shaping Indian macro policy.

2 What has changed

Compared with these initial conditions, a sea change has taken place in the post-1991 period.

2.1 Globalisation

From an economic perspective, globalisation involves integration into the world economy for trade in goods and services, and capital flows. The familiar trade/GDP ratio measures the trade-intensity of a country by summing across merchandise imports and exports, and expressing these relative to GDP. In similar fashion, an effective way of measuring globalisation is to sum up the flows coming into and out of the country on the current account and the capital account. This is shown in Table 1 in units of billion USD and percent to GDP.

Measured in USD, we see substantial growth, going from \$5 billion in 1956-57 to \$909 billion in 2006-07. The most important features are, however, revealed when viewed as percent to GDP. Total flows stagnated at roughly 20% of GDP between 1956-57 and 1986-87. The reforms of the early 1990s led to a much bigger value of 49.9% in 1996-97. From there, the recent years have seen a dramatic expansion to 110% of GDP in 2006-07. This suggests a rapid and unprecedented globalisation of the Indian economy (Kelkar, 2004b).

Continued progress is likely in removing tariff and non-tariff barriers, building infrastructure for transportation and communications, and removing capital controls.² Hence, gross flows across the boundary are likely to continue to grow faster than GDP.

Of particular importance is the size of the *current* account, which has grown from 17.3% of GDP in 1986-87 to 60.6% of GDP in 2006-07. Economic agents are able to use misinvoicing to transfer substantial resources across a large current account (Mishra *et al.*, 2007; Patnaik and Vasudevan, 2000). Hence openness on the current account inevitably goes along with substantial *de facto* openness on the capital account. In particular, with the rise of outbound FDI, many Indian firms have turned themselves into multinational corporations. They are now able to do transfer pricing with their offshore subsidiaries, and thus achieve capital flows. If misinvoicing of 10% takes place on average on all current account transactions, then this could be used to move 6% of GDP across the boundary. This constitutes an enormous movement of capital.

Putting together the channels of misinvoicing, FII flows, inbound and outbound FDI, debt flows, structured financial transactions, etc, substantial capital flows are now feasible. While a debate continues to take place on whether and when India should usher in capital account convertibility, the facts on the ground are that there is already substantial *de facto* convertibility.

The capital controls that remain are yielding various kinds of *microeconomic* distortions and rent-seeking. The removal of capital controls is important from the viewpoint of eliminating frictions, improving competition in finance, and in reducing risk through global diversification (Mistry, 2007). However, in thinking about *macroeconomics*, India is closer to full convertibility than is generally perceived. The useful mental models are those drawn from open economy macroeconomics.

2.2 Government control of finance has partially eased

In the old India, key financial markets were banned, or were vitiated by the government. In recent decades, one element of finance has largely broken free of government control – the equity market. The equity market has achieved a full ecosystem with high levels of liquidity and market efficiency (Thomas, 2006). It has:

²See *Nothing calibrated about CAC* in *Business Standard*, at http://www.mayin.org/ajayshah/MEDIA/2007/worry_cac.html on the web, for a discussion of the lags between changes in the institutional environment, and their translation into substantial cross-border flows on the current account and the capital account.

Table 2 Banks and markets in the Indian economy

		(Trillion rupees)
	Non food credit	COSPI market capitalisation
June 1990	1.0009	0.4865
September 2007	19.8839	51.9647
Change (times)	19.8660	106.8134

- Private equity investors;
- The IPO market;
- A fairly liquid secondary market, with electronic trading, competing exchanges, nationwide anonymous electronic trading, risk management at the clearing corporation;
- Derivatives trading comprising onshore exchange-traded derivatives and offshore OTC derivatives;
- Mutual funds;
- Stock market indexes, index funds and index derivatives;
- Barring barriers faced by pension funds, few domestic participants are blocked from market access;
- Convertibility for ‘foreign institutional investors’.

While the government is involved in regulation and supervision of the equity market, it has no role in determining prices of equity securities. This is in contrast with the three other elements of finance – currencies, commodities and bonds – where speculative price discovery does not take place in India, and government is integral to determining prices.

This transformation of the equity market may have helped reshape the financing of firms, with a move towards much more equity financing. Table 2 shows an imperfect comparison about India’s evolution away from a bank-dominated financial system. In the case of banks, we show the stock of outstanding ‘non-food credit’. In the case of the equity market, we show the stock of market capitalisation of the CMIE COSPI index.³ The strength of this comparison lies in the fact that both values are accurately measured. However, it is an imperfect comparison in that it compares the market value

³The CMIE Cospi index contains all firms where trading took place on at least 66% of the days in the last six months. In June 1990, there were 971 firms in the index; by September 2007 this had risen to 2,763 firms.

of equity of just 2,763 most liquid firms against all credit given out by the banking system.

This evidence shows that over the recent 17.26 years, non-food credit grew by 19.87 times. Over that same period, the COSPI market capitalisation grew by 106.8 times.⁴ The COSPI market capitalisation was roughly half of non-food credit in 1990; by 2007 it was 2.6 times the size of non-food credit. In March 1991, the COSPI market capitalisation was 12.9% of GDP; by March 2007 it had risen to 94.4% of GDP.

From the viewpoint of macroeconomics, these developments imply a significant change in behaviour of the economy. The rise of the equity market implies that there is a new role for a forward-looking market in the investment behaviour of firms. Expectations of equity market participants shape investment. This is in contrast with earlier decades, where financial flows were substantially driven by government decisions.

2.3 The business cycle

In mainstream macroeconomics, the inventory and investment of firms lie at the core of ‘business cycle’ fluctuations. In boom times, profit rates are high, the investment/GDP ratio surges and inventories are drawn down. In recessions, profit rates drop, investment/GDP drops, and inventories build up. These developments play out over multi-year time periods. We call this textbook characterisation the ‘conventional business cycle’.⁵

2.3.1 Monsoon shocks matter less

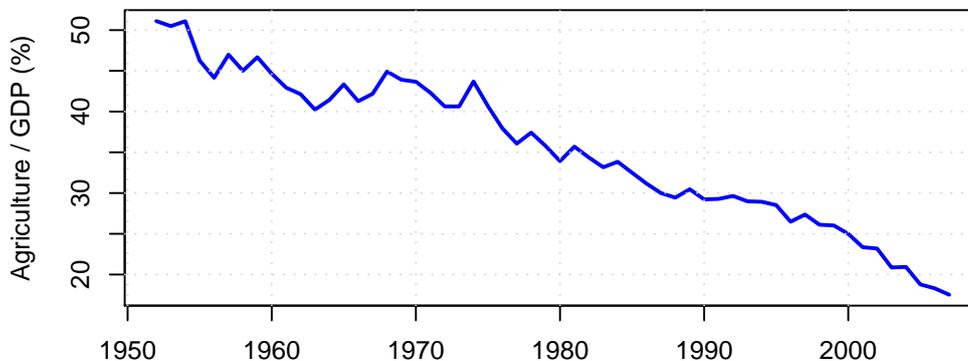
In the India of old, there was no conventional business cycle (Patnaik and Sharma, 2002). A good year was one with a good monsoon and a downturn was generally about a bad monsoon. These developments played out over a short horizon of one or two years. Output fluctuations significantly reflected a succession of uncorrelated monsoon shocks - it was not a conventional business cycle.

A major change in the behaviour of the Indian macroeconomy, then, consists of the rapidly dropping importance of agriculture. As Figure 1 shows, the share of agriculture in GDP has dropped quite sharply from 27% in 1996-97 to 17.5% in 2006-07.

⁴Over this period, the COSPI P/E rose from 16.57 to 27.61, a rise of 1.66 times. Hence, the bulk of the rise in the COSPI market capitalisation was based on the growth of the firms and the growth of the number of firms.

⁵Strictly speaking, all India has is a ‘growth cycle’, since negative GDP growth rates almost never materialise.

Figure 1 Agriculture/GDP ratio



In addition, the vulnerability of agriculture to the monsoon is declining through the spread of irrigation. The linkages between agriculture and the economy are weakening. Putting these factors together, the domination of monsoon shocks in influencing the macroeconomy has been substantially attenuated.

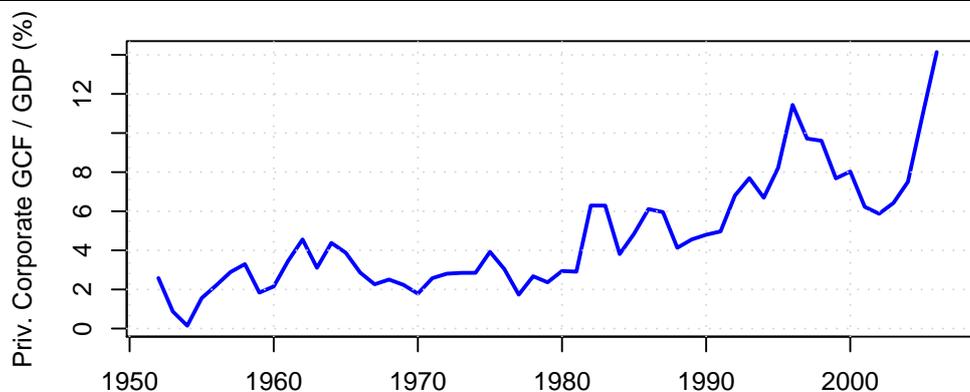
Linearly extrapolating into the future, agriculture may drop below 10% of GDP by 2013, by which time it would be an essentially insignificant part of Indian macroeconomics. Agriculture will stop mattering for macroeconomics; within a few years, it will be just another industry.

2.3.2 A more conventional business cycle

In recent years, large fluctuations of inventory and investment of firms have taken place, in line with the mainstream notions of a conventional business cycle that is found in mature market economies.

Several factors are at work here. In the old world, firms did not have operational flexibility to invest. Firms were static, with fixed technology and minute product variation over time. The product life-cycle was very long, which necessitated reduced investment. Low competition gave high profitability and thus significant internal resources; the pressures of facing financial markets that is caused by external financing requirements were subdued. Most projects were profitable, and the bottleneck lay in getting support from the government in terms of licensing. Since most projects were profitable, high leverage was advantageous, and firms also competed in the political process of accessing debt finance in an environment where government controlled banking. Finally, in the old world, a substantial scale of investment took

Figure 2 Private corporate gross capital formation (percent to GDP)



place in the public sector, where bureaucratic processes rather than forward-looking decision making controlled the flow of investment. This enhanced the stability in investment.

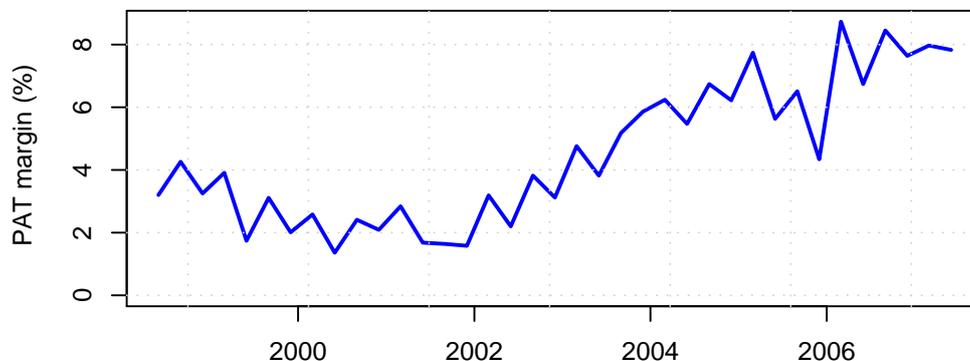
There has been a sea change in the environment of firms. Investment by the public sector based on five year plans has subsided. Entry barriers have been largely eliminated, so firms now engage in forward looking decisions about investment. With low trade barriers and foreign firms operating in India, Indian firms are now operating in the much more dynamic global market. Investment decisions are now qualitatively different from the past. The environment is now one of short product cycles, technological complexity, and investment opportunities all over the world. With high competition, many projects are unprofitable. Profits are uncertain, and expectations about profit drive investment decisions, as is the case with firms in all mature market economies. With greater uncertainty, there is a greater requirement for equity capital. Firms have access to a strong equity market, which (in turn) is discriminating in the industries and management teams which get attractive valuations.

In this environment, the investment by firms is highly variable, reflecting changing conditions in domestic, global and financial markets. This is a sea change when compared with the stability of investment in previous decades.

Finally, the sheer size of the large firms has grown significantly when compared with GDP, to a point where fluctuations in the investment and inventory of firms are important on a GDP scale.

Figure 2 shows the time-series of private corporate gross capital formation (GCF), expressed as percent to GDP. In preceding decades, this number was

Figure 3 Net profit margin of non-financial firms



small – below 6% of GDP. The decline from a good year to a bad year was perhaps two percentage points of GDP, and this was hence relatively unimportant on the scale of macroeconomics.

In recent years, we have seen the emergence of the behaviour found in the conventional business cycle. In the investment boom of the mid-1990s, private corporate GCF rose from 5% of GDP in 1990-91 to 11.4% of GDP in 1995-96. This then fell dramatically in the business cycle downturn to 5.9% in 2001-02, and has since recovered to 14.1% in 2005-06.

These fluctuations – a rise or fall of six to eight percentage points of GDP – are now large when compared to GDP; they now influence macroeconomics. The inventory/investment cycle of private corporations is, hence, of central interest in understanding the new ‘conventional business cycle’ dynamics of India.

Figure 3 shows the quarterly time-series of the net profit margin of non-financial firms, as seen in the CMIE database. This series only starts from Jun 1998, when quarterly disclosures by firms began. It shows features associated with the ‘business cycle’ as it is known in mainstream economics. It exhibits regularities at business cycle frequencies – as opposed to the short-lived shocks associated with monsoons. It shows a *recovery* of profits through 2002-03, one of the worst monsoons in recent experience - an example of the diminishing importance of agriculture. It shows a large difference between profitability in the downturn – below 2% over 2000-2002 – and that seen in an upturn – roughly 8% after 2006. These movements appear to coincide remarkably well with the global business cycle.

2.4 Exchange rate inflexibility

There is a widespread belief in India that in the early 1990s, the rupee became a ‘market determined exchange rate’. However, currency flexibility actually went *down* in the early 1990s. INR/USD volatility was 8.35% per year from early-1973 till end-1991. This dropped to 4.3% in the period from early-1994 till September 2007.⁶

With this near-halving of currency flexibility, India embarked on a monetary policy framework of a pegged exchange rate with a *de facto* opening capital account in the 1990s (Patnaik, 2007). A key insight of modern open economy macroeconomics is the ‘impossible trinity’: when a country pursues currency policy while having an open capital account, the lever of monetary policy gets ‘used up’ in achieving the currency target. In India, the pegged exchange rate coupled with growing openness on the capital account has induced a growing loss of monetary policy autonomy. The lever of monetary policy is repeatedly ‘used up’ for achieving currency targets. Monetary policy is not able to stabilise the local economy.

While these difficulties have been brewing since the late 1990s, they have become starkly visible in recent years (Patnaik, 2003, 2005; Joshi, 2003). When capital has come into India, the attempt by RBI to peg the exchange rate has led to a surge in reserve money. Exchange rate pegging has hijacked monetary policy. The impossible trinity, which was once dismissed as ‘just a theory’, is on the front pages of Indian newspapers.

2.5 The fiscal crisis has partially abated

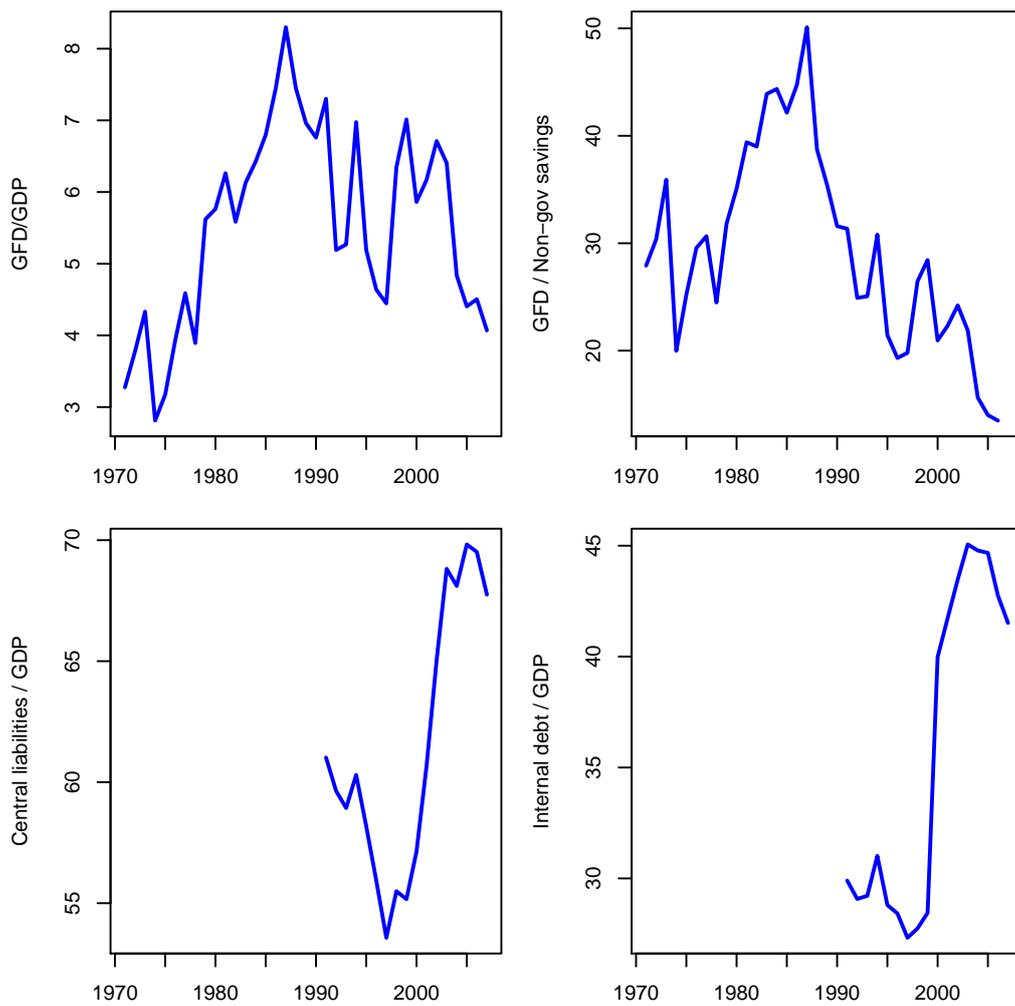
The central gross fiscal deficit escalated dramatically from 3.17% in 1974-75 to a peak of 8.3% in 1986-87. While the reforms of the early 1990s dented the deficit, it resurged to 7% in 1998-99. Through the late 1980s and the 1990s, fiscal stability was the most important issue in macroeconomic policy. This led to an enormous effort in transforming fiscal policy, which included improvements in tax policy, improvements in tax administration, the enactment of the Fiscal Responsibility and Budgetary Management (FRBM) Act, and the Twelfth Finance Commission (Rao, 2005; Kelkar, 2004a).

As Figure 4 shows, in recent years, there has been a considerable change in the fiscal outlook.

- *Central gross fiscal deficit* The top left graph shows the central gross fiscal deficit expressed as percent of GDP. A fiscal consolidation of three percent-

⁶High INR/USD volatility in the pre-1991 period was not caused by pegging to the GBP. INR/GBP volatility was higher - at 10.2% - than INR/USD volatility in the 1973-1991 period.

Figure 4 Fiscal consolidation of the central government



age points has come about: from 7% in 1998-99 to 4% in 2006-07. This corresponds to an average improvement of 0.37 percentage points a year over eight years. It now appears likely that the FRBM target of a central gross fiscal deficit of 3% in 2008-09 will be achieved, though achieving the target of a revenue deficit of zero appears daunting.

- *Extent of pre-emption of resources* The right hand top graph expresses the central gross fiscal deficit as percent of non-government saving. This peaked at near 50% in the late 1980s and has dropped to unprecedentedly low levels, reflecting a combination of a reduction in the gross fiscal deficit and an expansion of savings of the private sector.
- *Debt/GDP ratio* The left hand bottom graph shows total central government liabilities as percent of GDP. There was a worrisome period from 1996-97 to 2002-03 where this ratio rose from 53.6% to 69%. However, in the following years, it has dropped slightly to 67.75% in 2006-07. The right hand bottom graph shows the ratio of *internal* debt to GDP. This is particularly relevant given that the central government's offshore borrowing is generally at concessional terms and does not directly fund domestic deficits. This shows a somewhat more pronounced fiscal consolidation.

Turning to the consolidated deficit of the centre and states, from a peak value of 9.63% of GDP in 2001-02, this had dropped to 6.36% of GDP in 2006-07: a gain of 3.27 percentage points in five years or an average pace of improvement of 0.65 percent of GDP per year. The gross fiscal deficit of the states alone dropped from an average of 4.3% in 2000-2004 to 2.1% in 2007-08 (budgeted) (Kishore and Prasad, 2007).

These changes constitute a transformation of Indian public finance and hence the macroeconomic environment.

Table 3 Changes in Indian macroeconomics

The old Indian macroeconomy	The new Indian macroeconomy
A sequence of agricultural shocks rather than a conventional business cycle.	A sharp drop in the importance of agriculture in the economy, and the commencement of a conventional business cycle based on the inventory/investment behaviour of firms that operate in a transformed environment.
A closed economy.	A rapid movement towards an open economy, with the removal of trade barriers and onset of <i>de facto</i> convertibility.
Deeply distortionary tax policy coupled with a fiscal crisis.	Significant progress in easing distortions caused by tax policy, and in easing the fiscal crisis.
A monetary policy which was hijacked by deficit financing.	A new regime of exchange rate inflexibility, which has given a considerable loss of monetary policy autonomy when juxtaposed with increased <i>de facto</i> convertibility.
Primitive financial markets with illiquidity, government control, and the lack of speculative price discovery.	The rise of one genuine financial market – the equity market – which is large by the standards of macroeconomics, where there is genuine liquidity and there is no government control over prices.

3 Looking forward

This article has argued that the old world of Indian macroeconomics as been transformed in the post-1991 period, as summarised in Table 3. The period from 1991 to 2007 covers 16 years. Different elements of this ‘sea change’ have fallen into place at different times. However, the main point of this article is that put together, these changes constitute a fundamental transformation of the environment of macroeconomic policy.

In this radically transformed environment, what should macroeconomic policy seek to do? Two tasks rise above others. The half-finished task of *confronting the fiscal crisis* needs to be completed satisfactorily. This needs to be accompanied by a new focus on *stabilisation of the business cycle as the core task* of macroeconomic policy. This involves fresh thinking on both fiscal and monetary policy.

3.1 Fiscal stability

Putting the Indian State on a sound footing in terms of public finance requires three attributes:

1. Correct measurement of deficits and debt;
2. A declining debt/GDP ratio in all years, except for a rare calamity;⁷
3. Voluntary purchase of government bonds by well motivated actors.

As an example of sound public finance, Figure 5 shows the 300 year history of the debt/GNP ratio in the UK.⁸ From the late 18th century onwards, the debt/GNP ratio generally declined in normal years, with increases being mostly linked to war expenses.

Figure 4 has shown a considerable improvement in fiscal outcomes in India in recent years. However, a careful evaluation of the sources of improvement in recent years, and looking forward at possible scenarios, suggests that the task of placing the Indian State on a sound footing in terms of public finance is only half complete. While remarkable progress has come about, five key areas of concern remain:

- *Accounting for off-balance-sheet liabilities* Public debt should be reckoned inclusive of the off-balance sheet liabilities such as those present owing to oil, fertiliser and the Food Corporation of India.⁹ In addition, there are the unfunded promises of paying pension to civil servants that have been estimated at over 65% of GDP (Bhardwaj and Dave, 2006).¹⁰ Implicit guarantees that have been given to public sector financial firms

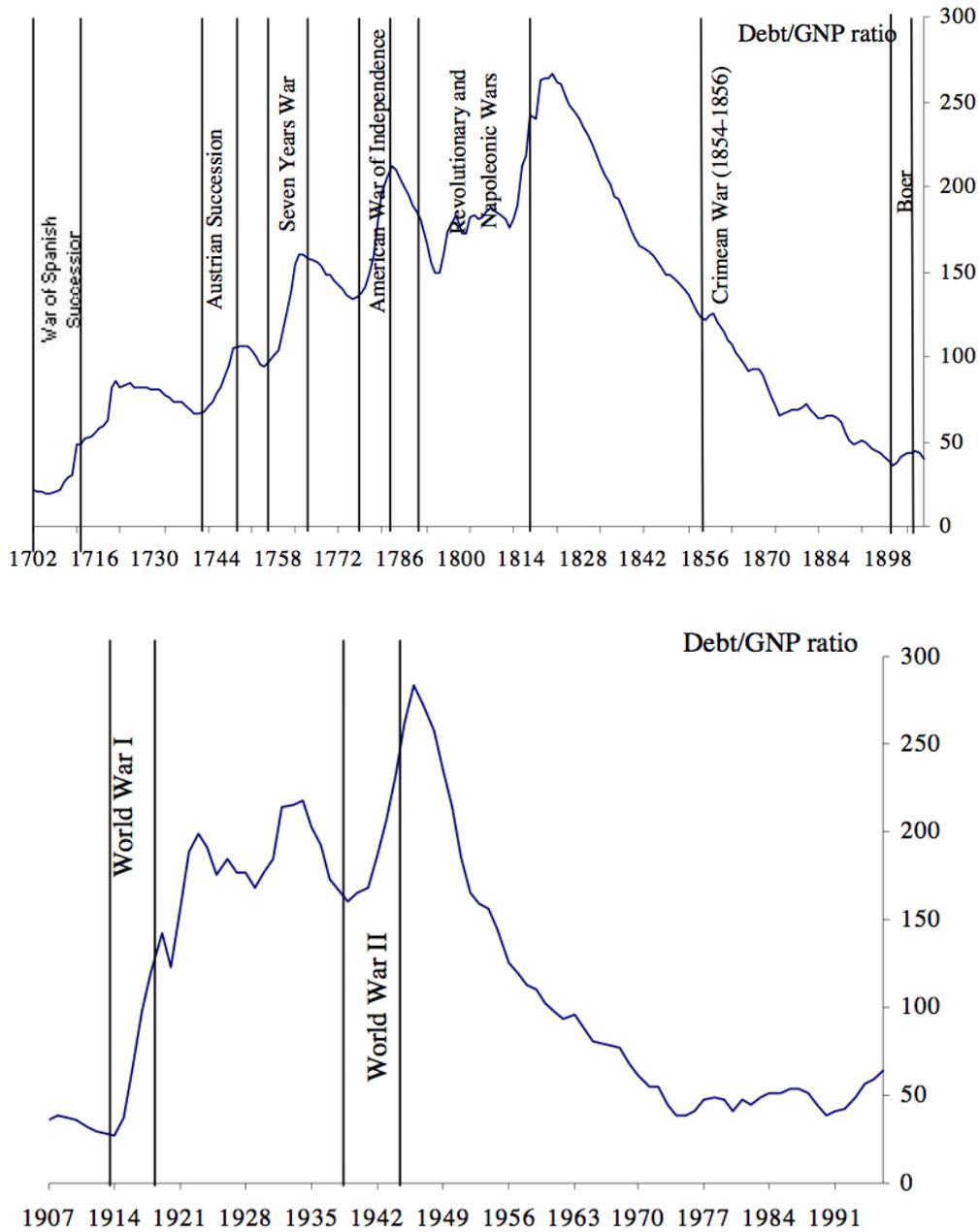
⁷In the development economics literature, there is an argument that there is a case for running large fiscal deficits in a developing country in order to build physical infrastructure, which would then generate GDP growth which would then drive down the debt/GDP ratio with a lag. In India, the bulk of the investment in areas such as roads, ports, telecom, electricity generation, etc. is increasingly structured as public private partnerships, where private infrastructure vendors put together financing from the public securities markets. The quantum of on-budget infrastructure expenditure is small, and its effectiveness is limited.

⁸This is drawn from Janssen *et al.* (1999).

⁹An editorial in *Business Standard* on 19 October reports that in 2007-08, 'oil bonds' of Rs.23,458 crore would be issued, and public sector oil companies would 'absorb' a loss of Rs.54,935 crore, owing to the involvement of government in the market for petroleum products.

¹⁰The New Pension System involves converting the unfunded pension debt for most civil servants recruited from roughly January 2004 onwards into a stream of explicit on-budget payments (Shah, 2006).

Figure 5 Debt/GNP ratio: the UK experience over 300 years



are also highly valuable (Shah and Thomas, 2000). It is not possible to evaluate whether the Debt/GDP ratio is dropping every year, and to discuss fiscal stability associated with a given level of the deficit, if these numbers are not measured correctly.

The FRBM Act has perhaps given government an incentive to push more debt into such off-balance items. In 2006-07, this off balance sheet borrowing on account of oil companies and the Food Corporation of India amounted to Rs.35,350 crore or roughly one percent of GDP. Roughly speaking, these issues imply that the fiscal deficit in 2006-07 was understated by roughly one percent.

An urgent effort needs to be undertaken to convert all liabilities into transparent, on-budget liabilities, and to eliminate all off-budget financing.

- *The sixth pay commission* A key question which will affect the evolution of public finance in the coming five years is the decisions on wages of civil servants made by government in response to proposals from the sixth pay commission.

The present structure of wages for government employees involves paying too little at senior levels and too much at lower levels (Glinskaya and Lokshin, 2005). Matching wages to market benchmarks requires cutting wages for junior staff, which can free up resources. Even if this is politically infeasible, it is possible to bring about a substantial increase in wages for senior staff without a substantial fiscal burden, because the number of employees at a senior level is very small.

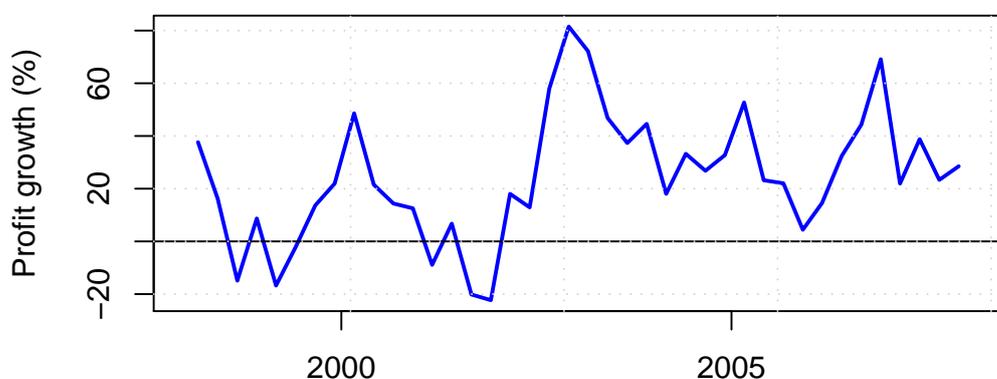
Hence, it is feasible to achieve substantial beneficial reforms of civil service wages without affecting the fiscal deficit. However, political compulsions could well lead to an outcome more like that of the fifth pay commission of 1997, where GDP at factor cost from public administration and defence expressed in constant prices rose by an unprecedented 14.48%, 10.62% and 13.28% from 1997-98 to 1999-00.¹¹

- *Impact of a business cycle downturn on tax collections* Table 4 suggests that the essence of the partial abatement of the fiscal crisis lies in the 3.6

¹¹Some of the most harmful effects of the fifth pay commission were concentrated on the states. Between 1997-98 and 1999-2000, the primary deficit of the states went up from 1 per cent to 2.6 per cent of SDP and the fiscal deficit from 3.2 per cent to 5.1 per cent. As a proportion of their revenue receipts, their revenue deficit went up from 9.6 per cent to 26 per cent.

Table 4 Sources of fiscal progress

	(Percent to GDP)		
	1998-99	2006-07	Change
Central gross tax revenue	8.9	12.5	3.6
Income tax	1.25	2.2	0.95
Corporation tax	1.52	3.91	2.4
Customs	2.52	2.19	-0.33
Excise	3.29	3.13	-0.16
Central gross fiscal deficit	7.01	4.07	-2.94

Figure 6 Net profit growth of non-financial firms (year-on-year)

percentage point increase in the Centre's gross tax revenue from 1998-99 to 2006-07. This gain is primarily about a 0.95 percentage point gain with income tax and a 2.4 percentage point gain with corporation tax.

In the budget estimates for 2007-08, corporation tax was the biggest single source of tax revenue, accounting for Rs.1.68 trillion out of gross tax revenues of Rs.5.48 trillion. With roughly 31% of gross tax revenues coming from this source, volatility in corporation tax revenues is now an important influence on the overall fiscal situation.

Figure 6 shows the net profit growth, on a year-on-year basis, of all non-financial firms observed in the CMIE database. These firms account for the bulk of corporation tax payments to the government. This graph shows that we have experienced a remarkable 21-quarter period of high and sustained net profit growth. However, net profit growth of corporations even turns *negative* in a business cycle downturn – as seen

in September 1998 to September 1999, and from March 2001 to March 2002.

Thus, in a future business cycle downturn, corporation tax growth will not be buoyant, and the nominal tax collections in a particular year could even decline when compared with the previous year. In a future business cycle downturn, income tax is also likely to suffer poor growth. The two key elements which have powered the improvement in the fiscal situation are, hence, elements which have a fairly high exposure to business cycle conditions. With the high reliance on income tax, the volatility of tax revenues is now higher than it used to be.

- *Expenditures on welfare programs* Table 4 shows that central gross tax revenue improved by 3.6 percentage points from 1998-99 to 2006-07. Roughly speaking, 30% of central gross tax revenue is sent to the states, so the additional resources to the centre were roughly 2.5 percent of GDP. Expenditure compression yielded another 0.4 percent of GDP, adding up to a reduction in the central gross fiscal deficit of 2.9 percent of GDP. The bulk of the contribution to fiscal consolidation has, thus, come from improved tax collections (2.5 percent of GDP) rather than from expenditure reductions (0.4 percent of GDP). This is in contrast with the international experience with successful fiscal consolidations, where a drop in current expenditure plays a major role.

The UPA has now embarked on an ambitious array of welfare programs. The early evidence suggests that these have not led to a sharp rise in the expenditure/GDP ratio. However, in coming years, this could shape up differently. Some of these programs could build up a significant administrative capability. Pressures for enlarging budgetary allocations on a given program could emerge when an array of contractors and political parties learn how to tap into the spending opportunities presented by the program. Finally, the expenditures of some of these programs, such as the NREG, could go up in a business cycle downturn. Hence, these programs represent a source of fiscal risk that is larger than is presently visible.

- *Rethinking fiscal rules* Roughly speaking, India now has fiscal rules which cap the central fiscal deficit at 3% of GDP and the fiscal deficit of the states at another 3% of GDP. A consolidated fiscal deficit of 6% of GDP would be one of the biggest fiscal deficits in the world. There are many combinations of GDP growth rates and interest rates for which this would yield an increasing debt/GDP ratio. In particular, interest

rates in the future are likely to be higher in the future when compared with those present today, if monetary policy reforms take place.¹²

Hence, the legislative framework for fiscal responsibility needs to be amended so as to shift towards greater fiscal prudence.

In summary, while India has made remarkable progress on the fiscal problem, the next few years are a critical time in achieving a sound outcome, in addressing the five areas of concern articulated above. These factors suggest that the first task of macro policy in India remains that of battling the fiscal crisis. The destination involves three key litmus tests: Sound measurement of deficits and debts, a declining debt/GDP ratio in all years except for rare calamities, and purely voluntary purchase of government bonds by well motivated actors. While India's fiscal situation has progressed dramatically, with important legislative and institutional changes, India is not yet at a point where these three tests are satisfied, or will be satisfied with a high probability in the foreseeable future.

3.2 Stabilisation

In past decades, India did not have a 'conventional business cycle' in the mainstream sense of the term. All that was found was a sequence of short-lived agricultural shocks. Now, the emergence of a large corporate sector, coupled with flexibility of decision making in the hands of this corporate sector, has - for the first time - given a business cycle rooted in fluctuations of inventory and investment. An interesting feature of this business cycle lies in the increasing synchronisation with the world business cycle.

As a consequence, for the first time, macroeconomic policy in India now needs to identify ways through which the policy framework can stabilise this conventional business cycle, as is done in market economies around the world.

3.2.1 Monetary policy

Before the ways and means agreement was signed between the Ministry of Finance and RBI, the lever of monetary policy was 'used up' for doing deficit

¹²With a pegged exchange rate, a period of capital inflow is associated with loose monetary policy and accelerating inflation. This is an effective characterisation of India's monetary policy from 2002 onwards. If monetary policy reform comes about, giving a cessation of exchange rate pegging, then monetary policy would be concerned about issues such as inflation and the domestic business cycle. In this case, interest rates on a business cycle upturn would be higher than those seen in 2007.

financing. With the ways and means agreement in place, and after a significant fiscal consolidation has come about, monetary policy could have occupied the centre stage in stabilisation.

However, in the early 1990s, currency flexibility went down sharply. This was accompanied by a rapid transition to *de facto* convertibility. As a consequence, the lever of monetary policy was ‘used up’ for achieving currency targets. Thus, by the early 2000s, just when India was experiencing a conventional business cycle, where monetary policy could have come into its own in stabilising this business cycle, monetary policy autonomy was lost through a combination of convertibility accompanied by exchange rate rigidity.

This combination of the existing fiscal policy framework and the existing monetary policy framework leaves India without a macro policy framework for stabilisation. This suggests that Indian GDP growth volatility will be high in coming years, higher than is found in other continental-sized economies which have achieved a stabilising monetary policy.

The ‘Taylor principle’ asserts that for monetary policy to be stabilising, the response of the central bank to a shock in expected inflation has to be greater than one-for-one.¹³ The inflation coefficient in estimated Taylor rules has to be greater than one. Present estimates in India (Mohanty and Klau, 2004; Virmani, 2004) yield values well below 0.5. This suggests that monetary policy in India violates the Taylor principle, that monetary policy in India is destabilising. This is, of course, consistent with the picture of a monetary policy regime that is driven by exchange rate pegging. In an open economy, a central bank that runs a pegged exchange rate cannot control inflation or contribute to stabilising the business cycle.

Reorienting monetary policy to the task of stabilisation requires changes in institutional arrangements.

With an open capital account, exchange rate pegging clearly induces a loss of monetary policy autonomy. However, a floating exchange rate is not a monetary regime. A mere switch from a pegged exchange rate to a floating rate, without fully thinking through the implications for monetary economics, would be a mistake. Countries that have lacked a nominal anchor, such as Argentina, Brazil, Israel, Mexico and Chile, are known to have suffered prolonged episodes of high and variable inflation. With increasing INR/USD volatility in recent months (Figure 7), India runs the risk of entering a period of high and variable inflation (Figure 8). Anchoring fiat money to the basket of goods in the consumer price index is now seen to be the right solution for achieving a nominal anchor, one that stabilises the domestic economy.

¹³See *Was a rate hike required* in *Business Standard*, at <http://www.mayin.org/ajayshah/MEDIA/2006/ratehike.html> on the web.

Figure 7 Easing the currency peg

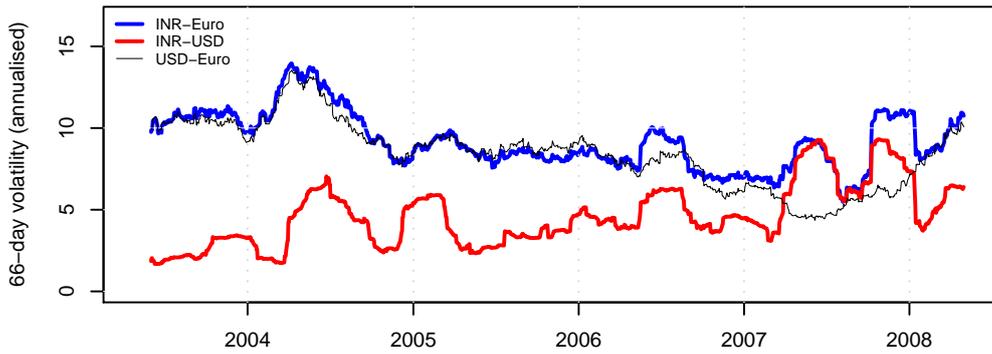
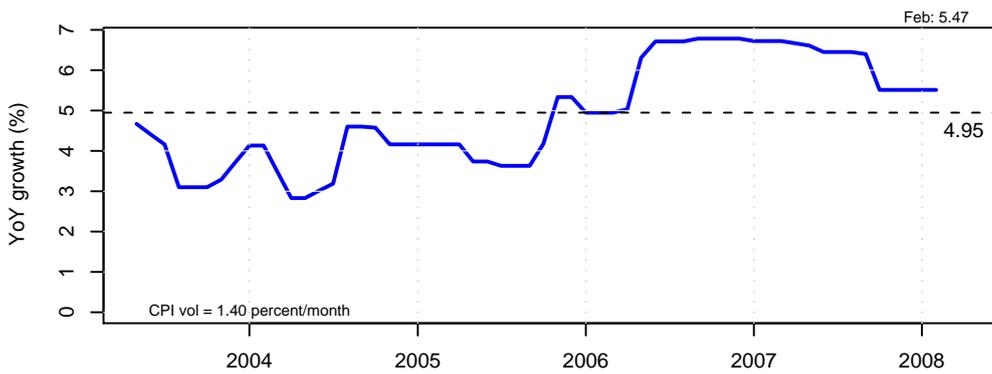


Figure 8 Smoothed CPI-IW inflation has become high and variable



Just as the FRBM constrained fiscal policy, new legislation is required, which constrains monetary policy to deliver an inflation target in an environment of transparency, accountability and independence. This requires divesting all functions other than setting the short-term interest rate from the central bank. Largely speaking, this is well understood territory, where dozens of countries have implemented such reforms. An Indian effort in monetary policy reform would need to adapt this broad understanding to local conditions.

3.2.2 Fiscal policy

As emphasised above, placing Indian public finance on a sound footing involves passing three tests: (a) Sound measurement of deficits and debts, (b) A debt/GDP ratio that declines in all years except for rare calamities and (c) Government bonds that are voluntarily purchased by well motivated actors. The approach of the FRBM Act, has been to place a limit of 0 upon the revenue deficit and a limit of 3% of GDP for the fiscal deficit. There is a broad consensus in India that this was an appropriate strategy to bring about a fiscal consolidation.

However, looking forward, a fiscal strategy where the government tries to rigidly hold the revenue deficit and the fiscal deficit near these two values of 0% and 3% is neither feasible nor optimal.

The first issue is that of feasibility. In a business cycle downturn, tax revenues will inevitably be hurt. This is particularly owing to the importance of corporation tax and income tax, which are vulnerable to business cycle fluctuations. Expenditures on programs such as NREG will inevitably go up in a downturn. When a budget is crafted in February 2008, data about the economy is only known upto December 2007. Hence, little is known about business cycle conditions that will prevail from April 2008 to March 2009. Hence, 'fiscal marksmanship' will inevitably be poor.

At the same time, an enlargement of the deficit in a downturn constitutes a stabilising response on the part of fiscal policy. From the viewpoint of stabilisation, it is healthy and appropriate to have a higher fiscal deficit in a downturn. Yet, the very credibility of fiscal rules will be adversely affected if, for sound reasons of a business cycle downturn, the limits are frequently violated. Financial markets will not trust Indian public finance if claimed fiscal rules are violated.

In addition, the present fiscal responsibility framework involves limits for the centre and states which add up to capping the consolidated fiscal deficit of centre and states at 6% of GDP. This is one of the biggest fiscal deficits of the world. As Table 5 shows, in the class of countries with a long-term foreign

Table 5 Consolidated fiscal surplus in countries with an S&P long-term foreign currency rating of BBB

Country	Consolidated fiscal surplus (2007, forecast)
Russia	5.6
Kazakhstan	3.2
Bulgaria	2.0
Montserrat	0.4
Barbados	0.2
Mexico	-1.2
South Africa	-1.4
Thailand	-2.2
Croatia	-2.2
Romania	-2.5
Tunisia	-3.3
Poland	-3.9
Hungary	-6.8

Source: Sovereign risk indicators, Standard & Poors, 8 January 2007.

currency sovereign rating which was at the lowest possible investment grade (S&P's BBB), only Hungary had a fiscal deficit of 6.8%. It will be difficult for India to maintain an investment grade rating while running such a large deficit; public finance will often be teetering on the edge of difficulty.

Both these aspects can be addressed by moving forward to a new FRBM-II formulation, involving three key elements:

1. The limit for the consolidated deficit of the centre and states needs to be pushed downwards to a value near 3% instead of the existing 6%, so as to assure a declining debt/GDP ratio at all times. Through this, India would rise up from the bottom when international comparisons of deficits are made.
2. Fiscal rules should require that *budgets* are formulated with a target of a consolidated deficit of 1% of GDP.
3. In the event that business cycle conditions prove to be difficult, the fiscal rules should permit a slippage going up to 3% of GDP. Through this, fiscal policy would be stabilising, yielding a consolidated deficit of near 1% when times are good but going down to 3% in a recession.

Such a framework addresses numerous problems. It eliminates the possibility of an increasing debt/GDP ratio that can arise with a consolidated

deficit of 6% of GDP. Fiscal policy would be stabilising, because there is a provision through which a budgeted deficit of 1% (summing across centre and states) can enlarge to 3% owing to lower tax revenues and higher expenditures. At the same time, this would be done in a way which preserves the credibility of the fiscal rules.¹⁴

How might this further reduction of the fiscal deficit come about? Looking back, the consolidated deficit dropped by 3.27 percentage points from 2001-02 to 2006-07, an improvement of 0.65 percent of GDP per year. How might we go forward, and obtain an additional reduction in the consolidated deficit of roughly five¹⁵ percentage points? Two elements of a fiscal strategy are visible. The introduction of the Goods and Services Tax (GST) can lead to an improvement of the tax-GDP ratio of roughly two percentage of GDP. The deployment of information technology for the purpose of delivering cash subsidies to poor people could support a large reorganisation of government expenditures, yielding a reduction in expenditure of three percent of GDP. Put together, these two strategies offer the prospect of obtaining the required gain.

¹⁴For a proposal to explicitly put the debt/GDP ratio into the fiscal rule, see Mistry (2006).

¹⁵Roughly speaking, what is required is going from a consolidated deficit of 6.36% in 2006-07 to a value like 1% of GDP under buoyant business cycle conditions.

4 Conclusion

The basic relationships in Indian macroeconomics have changed profoundly in recent years. The main point of this article is to highlight the fundamental structural change that has taken place at a qualitative level. These changes have the following implications:

- *Caution when working with data* When aiming to obtain insights into the present structure of the economy, the enterprise of empirical macroeconomics needs to be careful in specifying models which make logical sense under present conditions, and estimation efforts need to carefully test for structural breaks.

Indeed, given the short data series in the ‘new regime’, estimation of relationships through formal econometrics may often be infeasible. In this case, there may still be valuable insights obtained by thinking through the qualitative relationships that prevail in this new world, based on the ideas of open economy macroeconomics.

- *Skepticism about the traditional policy framework* An intuitive understanding of the dynamics and responses of Indian macroeconomics that is rooted in earlier experiences must be treated with caution. The relationships have changed. The macro policy framework which worked well in the 1980s and the 1990s can no longer be applied in the present setting.
- *A continued focus on fiscal stability* This involves an elimination of off-balance sheet deficits, prudent handling of the proposals of the sixth pay commission, achieving strong fiscal outcomes in the present business cycle upturn so as to be able to achieve the FRBM targets in a downturn, and prudence in expenditure programs.
- *New thinking on fiscal policy* In order to complete the half-finished fiscal consolidation, and to re-orient fiscal policy so that it can play a role in stabilisation of the business cycle, an FRBM-II Act needs to be enacted, with the following key features:
 1. Good quality measurement and disclosure of deficits and debt;
 2. Elimination of all off-budget financing;
 3. A limit on the *consolidated* fiscal deficit of centre and states of roughly 3% of GDP;

4. A mechanism for varying the fiscal deficit based on business cycle condition. Roughly speaking, this may require that the government *budget* for a consolidated deficit of 1% of GDP, a target which is achieved under strong business cycle conditions, but worsens to no more than 3% of GDP under recessionary conditions.
- *New thinking on monetary policy* While India has made important progress on reforms to public finance, monetary policy has not been comparably reconstructed. An Indian Monetary Authority Act needs to be enacted, with the following key features:
 1. Removal of functions from the central bank other than monetary policy.
 2. A mandate for targeting inflation.
 3. Mechanisms for independence of the interest-rate setting decision from electoral politics.
 4. Mechanisms for accountability, transparency and predictability.

India is not alone in steering macroeconomic policy away from an ill-posed set of instruments and goals. As an example, consider the UK, which is now widely seen as a role model for well functioning policies on fiscal, monetary and finance through the reforms of the late 1990s. Batini and Nelson (2005) emphasise that the UK spent many decades floundering on macroeconomic thinking. As they say in their abstract:

Policymaking in recent decades has discarded various misconceptions about the macroeconomy and the monetary transmission mechanism that officials held in earlier periods. The misconceptions included: an underestimation of the importance of monetary policy in demand management until 1970; a failure to distinguish real and nominal interest rates until the late 1960s; the deployment until the mid-1980s of ineffective monetary control devices that did not alter the monetary base; and the adherence by policymakers in the 1960s and 1970s to nonmonetary views of the inflation process. We also consider developments in fiscal policy in light of changes in the doctrines underlying U.K. macroeconomic decisions.

Many emerging markets have grappled with similar issues in recent years. In the decade of the 1990s, an important source of policy evolution was

the contradictions between increasing *de facto* convertibility and pegged exchange rates. Inconsistent monetary policy regimes are known to destabilise capital flows, and induce crisis phenomena such as speculative attacks, sudden stops, etc. In many countries, these contradictions forced a re-examination of the principles underlying macroeconomic policy.

India has not yet had a crisis deriving from the inconsistent monetary policy regime. Monetary and fiscal reform is required to achieve a consistent 'speculation-proof' policy framework, to smooth the process of India's integration into the world economy. The ideal scenario for the 2007-2010 period involves a reform effort that puts a sound macroeconomic policy framework into place before such a crisis comes about.

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