

Macroeconomic Policy and Economic Growth in India since 1980

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I. Macroeconomic factors in Indian economic growth

In the beginning I shall adopt a purely macroeconomic approach and examine the record of growth of GDP. As it is my brief to look at 'the relationship between macroeconomic policy and economic growth before and after the reforms', I study the two periods 1980s and the 1990s separately. Here I appear to follow a conventional understanding that 1991 marks the real break in Indian economic policy since 1950. I am of course aware that in some sense an incipient reform had started under Rajiv Gandhi in the mid-eighties itself. Of course, even after treating 1991 as the breakpoint, there is the question of why restrict the period prior to the reforms to the eighties. We could after all have taken the entire period 1950-90 as the pre-reform period. However, I do not do so, largely for the methodological reason that we are advised³ to compare periods of equal length. I adopt a test procedure that sifts the time series on annual GDP to pick the point of acceleration in its growth. The procedure is discussed in Balakrishnan and Suresh (2004). The results of the test were as follows:

Period: 1980-2000

Estimated break point 1990-91.

Regression lines:

1980-81 to 1989-90: $\log Y = 12.8 + .054t$

1990-91 to 1999-00: $\log Y = 12.7 + .063t$

$F = 1.86$ (critical $F = 2.43$)

p -value = 0.1230.

Note that the test-procedure picks out the year prior to the initiation of the reforms as the switch point. This apart, that the rate of growth in the nineties is higher may also be seen from the magnitude of the beta co-efficient of the two regression lines. However, any implied difference in the regression lines is not statistically significant, as seen from the reported F -value. While the result does signal the interesting feature that over the past two decades growth in India appears to have strengthened prior to the initiation of the reforms in 1991 we ignore this finding as the break-point picked is not statistically significant. On the other hand, a feature implied by the test that we do wish to flag is that the growth performance in the nineties does not constitute a significant improvement over the eighties. Of course, this is more or less accepted by now.

The F -value reported is for a test of the separateness of the two regression lines. As the estimated intercept is more or less the same, the test really applies only to the coefficient on time, which – as the estimated rate of growth - is really the parameter of interest to us. Note of course that our study, based on GDP, is focussed on the economy as a whole. It is conceivable that an acceleration has occurred in certain sectors of the economy. Nevertheless, it remains true that for the economy as a whole there is no significant step-up in the rate of growth in the nineties, a period widely seen⁴ as one when the policy regime underwent a sea change. The rest of this

¹ Indian Institute of Management, Kozhikode. I have benefited from the comments made at a presentation of an earlier version of this paper at the Technical Workshop in Delhi in September 2004. I thank Amitava Bose, Mihir Rakshit and Indranilsen Gupta for advice. Views and errors that may remain would be mine.

² This report was prepared by consultants for the Asian Development Bank. The views expressed in this report are the views of the authors and do not necessarily reflect the views or policies of the Asian Development Bank (ADB), or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequence of their use.

³ This is particularly relevant when undertaking econometric tests, though the use of such tests remains minimal in this paper. We know that the power of trend-break tests is greater as the periods under consideration are left broadly the same.

⁴ There has by now emerged a literature around the issue of whether the growth transition in India preceded the reforms of 1991, having occurred in the nineteen eighties. For this see Wallack (2003) and Rodrik and Subramanian (2004). In Balakrishnan (2001), while reviewing the record of one decade of reforms in India, I had speculated that the acceleration of GDP growth between the 70s and 80s was greater than between the 80s and 90s.

paper is devoted to identifying the main factors that may be relevant to an explanation of this, i.e., the absence of a trend break in the growth rate of GDP despite a acclaimed shift in the policy regime. Initially, I shall explore the potential role of the investment rate in accounting for the relative stagnation of the rate of growth in the Indian economy over the last two decades of the twentieth century.

The role of investment as a determinant of the rate of growth of a capitalist economy is an idea as old as growth theory perhaps. I might, in passing, make the following observation. Due to the equality *ex post* of saving and investment in a closed economy, a certain role of saving – out of the steady state – may be found out even in the neo-classical model of growth. However, the saving-investment identity ought not to be allowed to obscure the substantive difference involved here. In the neo-classical model it is assumed that all savings are invested. This involves a leap of faith. In the Cambridge models of growth, notably associated with Nicholas Kaldor⁵, on the other hand, investment governs savings (Table 1).

Gross domestic capital formation in the economy during the nineties is reported in Table 1. Investment has been expressed as a percentage of GDP, and all subsequent references to investment in this paper are made with this measure in mind. Reported are both the figure for the aggregate and the figure for capital formation in the three main sectors of the economy. Starting out with the aggregate, note that after effecting a brisk rise in the year after the onset of the reforms it has maintained a fairly wayward course through the nineties. Though the average rate registered in this period is higher than the figure for 1991-92, capital formation peaks in the middle of the decade, from then on registering what is clearly a downward trend if not a regular slide. Thus, while in the peak year of 1995-96 capital formation is close to twenty five percent higher than it was in 1991-2, for the decade taken as a whole we do not find a major economy-wide step-up in investment. A greater understanding of this is to be had by a look at the sectoral capital formation figures. There is a marked lack of uniformity in the sectoral experience with capital formation. Now, starting with the private corporate sector we find that there is a quite spectacular rise in 1992-93, that is in the year immediately following the initiation of reforms. This change is at least maintained in direction, if not in its pace, till the mid-nineties from when on there is a near collapse of private corporate investment. So much so that at the end of the decade following the initiation of reforms capital formation in the private sector is lower than in 1991-92. We are now able to see that aggregate capital formation in the economy mirrors with precision the behaviour of the private sector. Next turn to the public sector. For this sector there is no volatility as with the private sector. Only there is a steady decline in investment! By the end of the decade the investment ratio for the public sector is a third lower than at the beginning. Finally, the household sector. In marked contrast to both the private corporate and the public sectors, the household sector has registered a steady increase in investment. By the end of a decade it is at least fifty percent higher than in 1991-92.

Based on these figures we might immediately make the following comments, themselves based on a view of how the reforms had addressed each of the three major sectors of the economy by ownership category. There can be no doubt that the reforms were aimed primarily at the private sector. If accordingly the behaviour of private investment is taken to be an indicator of the sector's response, it would not be unreasonable to conclude that the response is disappointing to the extent that it has been far from steady. In fact, with the range being the equivalent of fifty percent, the degree of volatility may be considered unusually high even for investment. It is worth remarking once again that the volatility of the economy-wide investment ratio essentially reflects that of the private sector. Secondly, while the reforms may not have been targetted at the public sector, in so far as the package of incentives were not aimed at raising public investment, nothing about the reforms per se can be held to account for the collapse of public investment. It would be futile to relate this reality to the reforms. I shall later on in this note be arguing that it merely reflects the fact the public finances have gone awry. This should in turn suggest that an exclusive focus on the fiscal deficit as the sole legitimate end of all of macroeconomic policy can obscure some of its consequences for growth. Finally, there can be no doubt whatsoever, that the hero of the reforms, with respect to investment at any rate, is the

⁵ See Kaldor (1958).

Indian household sector. Not only has household investment grown, but its share of capital formation relative to the other two sectors has increased substantially during the nineties. This has not received sufficient notice. It is a costly oversight as the household sector is the largest site of employment in the country. In any case, the recent record of investment by the household sector has the implication that macroeconomic policies that succeed in improving the investment climate and expand investment opportunities for this sector are likely to be the most employment generating.

Returning to the theme of aggregate investment as one of the determinants of growth, it may be instructive to look at level of investment in India relative to that in East Asia. This is particularly relevant as we witness a constant comparison between growth in India and the East Asian experience. Further, it is usually argued that India's lowly position in the growth league-table can only be made up by accelerating the reform process, an act that would allegedly take India closer to the East Asian economies. As this is a very general statement it can hardly be contested. On the other hand, my intention here will be to show that 'reforms' as usually understood, i.e., a shift in the policy regime towards the market, may be insufficient. While it may well be possible to do so from more than one angle, in keeping with my brief, I do so from the macroeconomic one. At this stage I do so by pointing to the investment record in East Asia compared to that of India. Data on (gross domestic) saving and investment are presented in Table 2. They only extend upto 1996 here as the crisis of 1997 is very likely to have affected domestic investment in these economies for at (Table 2) least a couple of years. Several features emerge, not least the significant divergence among the East Asian economies in terms of their saving and investment behaviour. First, however, East Asian investment levels are uniformly very high relative to India's. The cases of Indonesia in the seventies and of Philippines in the mid-nineties are the only exceptions to this stylised fact. Secondly, even in the seventies, when the Indian per capita income was not very different from China's investment in India was much lower than in China. This suggests that a significant step up in investment may well be necessary before sustained growth can occur. Thirdly, not only is China's investment level high in relation to that of India, but that country has financed it almost entirely from domestic saving. This needs to be kept in mind while evaluating the suggestion that to match China India needs to attract more foreign direct investment. Some subsequent observations really pertain to India in itself. First, note that the step-up in investment between the seventies and the eighties in India exceeds the step up that occurred between the eighties and the nineties. This serves as a factor that is likely to be relevant to the explanation of why the reforms have not succeeded in raising the rate of growth significantly in the nineties. Quite simply, investment has not picked up. Then, in the absence of significant (total factor) productivity growth we cannot really expect higher income growth. Secondly, note that the level of savings in relation to investment in India throws some perspective on an on-going debate in India. This has to do with the role of labour laws in restraining growth. The data suggest that labour laws, investment restraining though they may be, may not constitute the binding constraint after all. The Chinese experience suggests that there may be a macroeconomic constraint on growth in India constituted by the level of savings. Note that China has systematically saved more than it has invested. It must be pointed out that this is not necessary for growth, for domestic savings may be supplemented by capital inflow. Also, we may learn from the Korean experience captured here; as Korean has systematically invested more than it has saved. This only suggests that harping on the Chinese experience in particular and the East Asian one in general to argue that labour laws *per se* constrain acceleration of growth in India may be simplistic. While the importance of learning from China is incontestable, there is a need to take into account the totality of the Chinese experience, an egregious aspect of which is a sustained, high level of investment. Yet again, in theory there is productivity growth, and slow growth of investment may be made up by rising (total factor) productivity growth. However, while TFP levels in India are certainly not low by East Asian standards, the best evidence⁶ appears to all point to the feature that TFP growth has not accelerated following the reforms started in 1991. Speaking of productivity growth, both the new growth theory⁷ and critical

⁶ See in particular the estimates reported in RBI (2004).

⁷ See Scherer (1999) for a general discussion.

narratives⁸ of the Indian experience in East Asian perspective suggest that Indian may be paying heavily for its top-heavy approach to education reflective of a mindset that seriously undervalues quality mass education programmes.

Finally, apart from the higher levels of investment in the economies of East Asia generally, there is a feature of particular relevance to India today. This concerns the public-sector saving-investment balance. Not readily divined from the data on aggregate saving and investment in the economies of East Asia is that most of these economies have maintained a positive level of public (sector) savings. Surely this has enabled the high level of public investment in these economies. It is less well known that in Singapore the state has strayed far from what is assumed by libertarians to be its legitimate domain to successfully develop urban housing estates. Here again, the wherewithal has most likely come from high public savings. Let us then look at the recent record of public saving in India⁹, as presented in Table 3. Note that, in complete contrast with the record in East Asia, in India public saving has been on a sharp downward trend from 1991. It may safely be asserted that there is nothing in the book of reforms that warrants dis-saving by government. The deterioration of the public finances cannot be blamed on the reforms, and in the light of the evidence on public sector capital formation presented in Table 1 cannot be explained away as a temporary slip due a step-up in public investment. It simply represents poor macroeconomic management. Also note that the worsening public savings can be masked by an improvement in the fiscal deficit. I make three observations on the increasing dis-saving by the public sector in India. First, it clearly establishes that there has been very little fiscal adjustment, really, since 1991. In fact, by 2000-1 the public sector saving-investment balance had worsened¹⁰ to levels beyond what it was in 1990-91. Secondly, we now have some perspective on the declining levels of public investment in India. It is unlikely that the Indian state is withdrawing from public investment due to ideological predilection as made out in political-economy narratives. It is more likely that it is fiscally challenged. So borrowing from folk wisdom, we might say that if a government is broke it cannot be expected to fix the economy. In any case, there has been little withdrawal of government from the economy. Only that the government spending is by now increasingly on current account rather than on capital formation. Of course, as moneys are fungible, a government is fiscally challenged only in the aggregate. Any particular kind of expenditure – such as public investment – can be stepped up if other kinds of expenditure are commensurately scaled down. A closer look at public spending in India will show that items other capital spending in India, including subsidies have increased since 1991. Here again, particularly with respect to subsidies, the reforms have not really been binding on the government in any way as routinely suggested. One sees no invisible hand of the IMF anywhere. Actually, the public sector is out on a binge it seems.

I would like to make a final comment on the poor record of public saving in India. It is often averred that the public sector in India was not devised to turn in a surplus. This argument is most often encountered in discussions of the poor record of public sector undertakings, but it may as well have been made of the budgetary accounts more narrowly. This is not only poor reasoning in that it fails to see that once high levels of debt have been reached – as is the case today in India – for the public sector government savings do determine the capacity to invest, but also, it is at variance with the original idea of the public sector in India. Indeed the public sector had been set up with the explicit intention of generating the savings necessary for investment as the private sector in India was seen as having neither the incentive to save nor the capacity, as the level of income in the economy was so low. Such an account also fits in with the perception that the first plan was based, at least partly, on the Harrod-Domar model of growth which treats the savings ratio as central. A relative neglect of savings emerges by the Second Plan based as it

⁸ Foremost among them Dreze and Sen (1996).

⁹ In this article I shall throughout focus on the public finances of the government of India. I am aware that the fiscal deficit of the government of India is less than half the fiscal deficit of the Union government and the state governments jointly. The reason for my focus is that this is an investigation of the role of macroeconomic policy in relation to the reforms initiated in 1991. The state governments were not directly affected by the reforms of 1991, in that they were not subject to IMF conditionality. Moreover, it would be agreed that by macroeconomic policy is usually understood the fiscal and monetary policy of some central authority. For fiscal policy in the United States in particular, for instance, it would be the spending and taxation policy of the federal government. Equally, in India it would be the fiscal policy of the Union government.

¹⁰ See RBI (2004) Table 2.8.

was on the then celebrated Mahalanobis Model, whose author was perhaps inspired as much by operations research as he was by economics. But all this is really by way of history. A serious deterioration of the public finances at the Centre is in fact relatively recent in India, dating only from the 1980s since when a deficit on revenue account has become a regular feature. Interestingly, the idea that sound public finance militates against serious economic planning and that any suggestion that we return to it is somehow a sign of capitulation to the Washington consensus is seriously to be rejected as just so much fashionable nonsense. However, the fixation of the IMF on the fiscal deficit to the exclusion of all other parameters of fiscal management does not inspire a great deal of confidence among serious economists either.

II. Macroeconomic policy and the stability of growth in the 1990s

An interesting view¹¹ of the performance of the economy in the nineties is that in contrast to the eighties, "... growth in the nineties has been more robust, exhibiting far less volatility." One does not have to agree with this depiction to recognise that stability is an important criterion in the evaluation of growth, and thereby the role of macroeconomic policy in attaining it.

Growth in GDP and its principal components¹² are graphed in Chart 1. Upon viewing the data it does seem odd to suggest that growth in the nineties was stable. Ignoring Agriculture where year to year growth can hardly be said to be influenced by policy there is little evidence of stability in the growth of the economy during the nineties. Such stability as one finds in the aggregate GDP can be put down almost entirely to the behaviour of the growth in Services. Industrial growth is propped up the growth of all categories other than Manufacturing, which by any estimation was the real focus of the reforms. In Manufacturing growth peaks in the mid-nineties and has fluctuated quite sharply in the second half of the eighties. Altogether the claim that the reforms had contributed to greater stability of the economy is surprising, with such smoothness as there is to GDP growth coming from a steady growth in the Services sector which has by now become the single largest sector of the economy. There is little that may be called "robust" about growth in either Industry or in Agriculture, though lack-lustre agricultural performance may be palmed off on natural cycles with a little more ease than can that of manufacturing.

Commentaries on the growth process that speak of a greater stability in the nineties appear actually to revolve around the marker of crises such as the external payments crisis of 1991. In this limited sense, it is of course correct to say that since then there are indeed right in saying that since then the economy is far from facing anything like it had faced in July 1991. Indeed with foreign exchange reserves exceeding 100 billion dollars it appears well buffeted against such crises. One may even go further and state that almost every indicator of the external sector, especially those pertaining to solvency, have shown improvement since the initiation of reforms. This record has flown in the face of some strident prognosis in 1991, predicting a deluge of imports and the consequent worsening of the balance of payments. This is far from evident, though one must acknowledge that the rupee has depreciated even further since the devaluation of 1991. This may have had some role on shoring up the balance of payments. Moreover, it cannot easily be assumed that the absence of an external crisis such as was witnessed in 1991 is the result of an improved fiscal situation as reflected by lower fiscal deficits in the nineties. Recall that Mexico had a primary surplus in 1995 and macro balances in the East Asian economies that had faced an external crisis in 1997 were far from negative in the relevant sense. Of course, India has not had capital account convertibility since 1947 making its situation less than fully comparable with that of either Mexico or the East Asian economies. Nevertheless, the East Asian experience helps us appreciate that the 'twin deficits' approach to current account determination is not particularly helpful. In India the fiscal deficit had peaked in the mid-eighties. The payments crisis was to come six years later. Clearly in the relatively closed economy that India was in the mid-eighties the fiscal deficit's contribution to the external payments crisis would have been

¹¹ Panagariya (2004).

¹² In the Chart 'Y' is GDP and 'A', 'I' and 'S' are gdp in Agriculture, Industry and Services, respectively.

related to the extent to which it had been financed by external sources. There is evidence¹³ that external commercial borrowing had increased as source of financing of the fiscal deficit in the eighties. So had repatriable NRI deposits, which had then been rapidly withdrawn at the first flush of the emergence of an unfavourable external environment for India. In the context then one might mention that the Reserve Bank of India is right in currently reducing the interest-rate premium on NRI deposits and ought to consider erasing it altogether, having first ensured that extremely sound procedures exist to correct a b.o.p. deficit spinning out of control as it had so effectively done in 1991. The point of this short digression is that the crisis of 1991 may have had less to do with macroeconomic policy, understood as fiscal management, or the policy regime in pre-reforms India than it may have had to do with an increasing laxity in external debt management. The rapidity and the extent to which the current account improved in the nineties is surely indicative of the relative roles of poor fiscal versus external-debt management in causing the crisis of 1991. Factors external to the Indian policy maker such as the hardening of crude prices and the drying-up of remittances following the invasion of Iraq have a role too. The turnaround in the external payments position cannot in my view be attributed solely to policy since 1991. Nevertheless it needs be pointed out that the reduced dependence on external debt as a source of financing of the fiscal deficit is a major advance in the quality of macroeconomic management since 1991.

Apart from macro-balances, the role of the reforms in improving the balance of payments in the nineties may be deduced from the relative trajectories of the balance of merchandise trade and of the invisibles account. As a share of GDP the trade account has not turned around at all since 1991, while the invisibles account has turned quite dramatically¹⁴. It is difficult to square this account of events with the standard package of trade reforms ranging from tariff reduction to the dismantling of quantitative controls. As for exchange rate policy, the rate of growth of exports in the nineties is barely higher¹⁵ than in the eighties. To credit the reforms for the crisis-free external situation may therefore be a little exaggerated, as several factors other than the reforms initiated by the Government of India may have contributed to it. First, the reforms were more likely to have affected the trade balance. The dramatic improvement in the invisibles account has had to do with the development of information technology which made possible the outsourcing of IT-enabled services to India. This is an instance of comparative advantage having been activated via an external development, namely information technology. Second the external environment itself has been stable without major oil-price increases or wars for over a decade since 1991. This is not to diminish the trade policy changes since 1991. They have served India well. Only, something more than the twin-deficits theory and suggestions of dirigisme are needed to account for the external crisis of 1991. This interests for reasons other than just getting history right, it would help us comprehend what the reforms can and cannot achieve even in the future.

One does not have to agree with Panagariya to recognise that he has nevertheless introduced an important dimension to the discussion on Indian economic growth by referring to stability. If by 'instability' may be taken to mean the progressive worsening of macro balances we would see that the stable external environment in the nineties has been accompanied by deteriorating internal balances. I am referring to the public finances. I believe that it is possible to argue that the lowered fiscal deficit of the nineties masks a serious deterioration of the public finances in India. To appreciate this we need to turn to some data. These are presented in Table 4.

It might be worthwhile to start by delineating the terrain of developments in the fiscal sector. First, it needs be recorded that the fiscal deficit has been definitely reduced. Even though the early resolve on reduction appears to have waned at bit, on average the fiscal deficit in the nineties is lower than it was in the eighties. Not so with the revenue deficit, however. By the end of the nineties it is higher than it was in 1990-91. Indeed this data masks the extent of deterioration. The average level of the Revenue Deficit as percent of GDP in the eighties was 1.9.

¹³ Economic Survey 1994-95.

¹⁴ See Economic Survey 2000-02 p. 103. For an evaluation of the twin-deficits hypothesis see Balakrishnan (1998a).

¹⁵ Economic Survey 2000-01 p. 105.

With this information¹⁶ we can see that it has substantially worsened in the nineties. As may be surmised, the reduction of the fiscal deficit co-terminus with a rising revenue deficit shows up as declining budgetary contribution to capital formation. There is a more or less steady downward trend. We would do well to pause for causes here. Interestingly the budgetary contribution to capital formation were perhaps the highest in the first half of the nineties, at a time when macroeconomic policy-making was subject to external surveillance as an IMF programme was in effect on. This makes it difficult to sustain the argument that the cut in capital spending is due to the dogma emanating from the Washington Consensus. Combined with evidence of the rising revenue deficit it is not unreasonable to look for the causes of this declining capital spending in domestic political economy¹⁷ compulsions. In any case, the rising revenue deficit is reflected in declining savings of the central government. It is difficult to visualize a significant turnaround in the government's investment activity in the continuation of such a scenario.

This worsening public savings ratio has occurred despite a declining (ratio to gdp of) public expenditure and the conclusion of the IMF programme.

As a digression we might comment on the reduction in public expenditure itself. It can hardly be anyone's case that reduction in public expenditure is necessarily for the common good. We are all aware of the paucity of public goods and the poor quality of public infrastructure in India. Indeed, the levels of public expenditure in the leading economies of the EU are very much higher than in India. Only, public revenues there are almost commensurately higher. In fact, we might even say that some of the expenditure on revenue account of the government is inevitable. The parlous state to the public finances in India suggest that the state's capability to affect any major change in the economy is down-sized due to its capacity to mobilize resources.

In concluding this part of the discussion on macroeconomic management over the last two decades, it may then be suggested that as instability on the external front may have abated it has been replaced by unstable public finances. Clearly a focus on this problem at a par with focus on the external payments problem in the early nineties is warranted. The near undisputed prestige of governments within a country implies that fiscal sclerosis does not get attended to with the same alacrity as a b.o.p. crisis as international money markets tend not to respect national governments particularly. I hope, however, to have indicated why we need to worry about the fiscal deficit in India today. Going by the recent trends, a rise in the fiscal deficit appears likely to finance consumption expenditure as indicated by a rising revenue deficit and declining capital expenditure. This is to be avoided. Consideration of inter-generational equity imposes constraints on macroeconomic policy even in the case of an economy facing a favourable Domar condition on debt. But back to the main point being argued here, steadily worsening internal balances are equally deserving of attention as external crises despite their varying degrees of unsustainability. If this is granted, it would be wrong to suggest that all-round stability has been restored to the economy in the nineties, that too by macroeconomic policy.

While macroeconomic policy may have destabilized the public finances in the nineties could it have actually contributed to volatility in the real sector? This cannot be entirely ruled out. A clue to answering the question lies in the behaviour of private corporate investment flagged earlier. Notice that it is volatile in the nineties, peaking in the middle of the decade and declining steadily since. Not surprisingly, this is mirrored in the trajectory of manufacturing output growth. If we take the view that volatility induced by animal spirits is an inherent feature of private investment we may leave it at that. On the other hand, if we are to believe that private investment is also influenced by the macroeconomic environment, itself a creation of macroeconomic policy, then macroeconomic policy in the nineties must bear at least some of the burden of the decline in investment, and thus growth, in this period. I provide two reasons why private investment may have peaked in the mid-nineties, one more important in my mind than the other. A direct cause for the choking-off of private investment in manufacturing is very likely the trend increase in the

¹⁶ Economic Survey 2000-01, p. 140.

¹⁷ Conceivably we are witnessing the continuation of a tendency identified some time ago by Bardhan (1984). For an account of how the political economy of macroeconomic stabilization entails often leads to a cut in public investment see Balakrishnan (1998b).

real interest rate¹⁸ starting 1995. I presume the relationship between the rate of interest and private investment needs little explication. Possibly in response to a slight increase in the inflation rate in 1994-95 the prime lending rate (PLR) was raised, leaving the real rate three times (!) higher in 1995-96 than in the preceding year. The PLR was lowered the next year but not in step with the inflation rate, leaving the real rate even higher! The trajectory of the lending rate is graphed in Chart 2 which reveals its progress nicely. Two features of the nineties emerge from the Chart. The real lending rate rises and remains high almost exactly as the inflation rate begins to decline and remain low. If there's some design being captured by the diagram then the policy-maker's timing is extraordinarily poor. Secondly, the real lending rate is unusually volatile in the nineties. It may then be expected that there would be at least some volatility in the sectors of the economy that are likely to be affected by the interest-rate movements. A priori this would include manufacturing. However, the gravity of the situation can only be understood by looking at the numbers. These are presented in Table 5. For perspective, note that the real lending rate of interest in the United States currently, in 2004, is very likely negative today. By comparison, the magnitudes recorded in India in the second half of the nineties are truly mind-boggling. It now is a small step to concluding¹⁹ that this regime of tight money effectively killed off the quite dramatic and immediate response of private investment to the change in the policy regime effected in 1991.

Investment peaks in 1994-95 when the real lending rate is the lowest for the decade. Activity as measured by the annual rate of growth of GDP in industry peaks the next year. Investment does not recover from the real interest rate shock.

I now digress briefly to comment on the implication of this episode for the conduct of macroeconomic policy in India of which monetary policy is a part. First, it is odd that such an episode has occurred at all as it denies any role to economic intelligence. I am yet to verify whether even Paul Volcker, the monetarist at the Federal Reserve in the early eighties, had presided over such a rise in the real interest rate so large as witnessed in India in the second half of the nineties. Apart from 1991-92, which had witnessed a rise in the inflation rate, the nineties were a period of declining inflation. This macroeconomic backdrop hardly justifies allowing real interest rates to rise. As India did not then have capital account convertibility, nor a payments problem requiring the attraction of (NRI) dollars at high interest rates it is difficult to link this outcome to considerations related to the external sector. In any case, we are here talking of the PLR of commercial banks. It appears not inappropriate to characterise this episode as one of 'missing monetary policy'. In effect, the monetary authority seems to be out of the picture altogether though it is more than conceivable that it was aware of the development. It is not possible to ascertain what the RBI's position on this development was. However, it would be entirely in order for us to raise two questions. Writing almost a century ago Keynes has addressed the alternation of boom and depression which is very expensive for the economy, but was of the view that "the consequences can be moderated by a wise policy on the part of the banking system".²⁰ If this is accepted, two questions follow. First, we need to query what the role of a nationalised banking system in India is? Should the commercial banks not ensure that entrepreneurs are not rendered bankrupt by high interest rates as their calculations go wrong, i.e., do the Indian commercial banks not have a mandate to maintain stable real lending rates? The second question depends upon the answer to the one just posed. If the commercial banks have no such requirement, and exist solely to pursue their bottomlines, is it not the mandate of the Reserve Bank of India to ensure that they are forced to heel via an activist monetary policy? This leads to the second of the two questions originally posed. Does the RBI have a sufficiently strong instrument to influence the credit market? For instance, we know that the Federal Reserve in the United States has and have seen that Mr. Greenspan has not hesitated to use it²¹. It is not clear whether the Reserve Bank of India has had similar powers or whether it always did but was hesitant to use them. In any case, the episode that we have just studied indicates that if it does not possess them yet it ought to develop them soon. On the other hand, if the RBI is already in

¹⁸ I shall focus on the real rate for loans here estimated as the difference between the nominal (prime lending) rate and the contemporaneous rate of inflation treated as a proxy for the *expected* rate of inflation.

¹⁹ For an account of how monetary policy works in India see Balakrishnan (1992).

²⁰ Keynes (1921), pp. 263-4.

²¹ The Federal Funds rate was lowered eleven times in 2002-3. Whether it had an immediate effect is a separate issue.

possession of instruments to handle such situations it ought in future to respond with alacrity if not greater resolve in the future. The five years of close to double-digit real lending rates in the second half of the nineties must count as a failure²² of monetary policy in India on a monumental scale. It is a conservative interpretation that the sole objective of a monetary authority is to main steady inflation, or among the ultra orthodox, a steady price level. We may argue that it is also a requirement that the monetary authority maintain financial stability defined as a steady real interest regime.

Before concluding this section it is worth trying to figure out how much of this tight money episode may be attributed to the monetarist predilections of the IMF, a world view that privileges high interest rates in the name of 'sound money'. While the Fund's penchant for squeezing credit as it holds on to the monetary approach to the balance of payments is all too well known it is not clear whether it would have had too much of a hold of Indian economic-policy decisions by 1994. I infer this from the information²³ that by 1994 repayments to the Fund were almost as high as the highest annual inflow since 1991. By 1995-96, net outflows to the IMF commence. It is unlikely that the Fund was the *deus ex machina* at least this time round then. Therefore, it is altogether difficult to escape the conclusion that this may have been a domestically driven initiative, or at least an act of omission amounting to gross negligence. As, with the demise of the system of administered interest rates, the prime lending rate (PLR) is in the hands of the commercial banking sector, India's domestic banking sector has much to do with the unraveling of this historical episode. Interestingly, interest rate policy appears to have been more active²⁴ during the era of administered interest rates which arrangement was in place over 1975-76 to 1994-95. In 1991-92 as the inflation rate rose by about thirty percent the minimum lending rate was raised from 16 to 19 percent. As the inflation rate was lowered to 8.4 percent in 1993-94 the minimum lending rate was lowered to 14 percent. As will be noticed from Table 5, over 1990 to 1995 the real lending rate was more or less maintained, except in 1992-93 when it had been left much higher perhaps as part of an anti-inflationary policy based on the judgement that inflation had not subsided. The rise in the real lending rate that we find in the second half of the nineties coincides with the deregulation of the lending rate (in respect of loans over Rs. 2 lakh) from October 1994. The RBI no longer has direct control of the lending rate, but neither do central banks the world over. Pressure on the lending rate may be exerted through indirect means. In fact, this is the true definition of monetary policy.

Of course, historically, central banks the world over have not always distinguished themselves by fine timing the interest rate. Consider the following account: "In the past two years the banking authorities of England and the United States have been influenced by correct principles, by they have acted too slowly and too late. They were too slow in putting money rates up, and now they have been too slow in putting them down again. A great deal of wreckage might have been avoided if the Federal Reserve Bank and the Bank of England had raised their rates six months early and more sharply. Much unnecessary stagnation and wasteful enforced idleness may be avoided now by the stimulus of cheap money".²⁵ It may be of some consolation to us that slow response of monetary policy is not confined to India. Of course, it may be borne in mind that the period that Keynes was looking at was a time of some uncertainty, being soon after a major world war that may be expected to have altered economic relations somewhat. Moreover, post-Depression western central banks cannot afford to appear lackadaisical in the face of economic downturns as amply reflected by monetary policy in the United States in the current millennium.

Once again, this episode of monetary disorder raises the question of what we expect of a nationalised banking sector in this country. Surely it cannot be seen as purely as a conduit of cheap credit to prioritised sectors; it also has a role in the maintenance of monetary order. The

²² It would not be fanciful to suggest that this episode is really a special case of the 'flawed delivery system' that the Prime Minister Manmohan Singh has highlighted as bedevilling India. We are quick to recognize the flaw in the functioning of the government machinery, but less quick to see a delivery aspect to all public intervention including, in this case, macroeconomic policy. For a report on the prime minister's observation see "Doc's pill on flawed delivery system", 'Sunday Times of India', Mumbai, 11 July 2004.

²³ See Economic Survey 1996-97.

²⁴ A valuable short history of the interest rate policy in India, rarely available in the public domain, may be found in Economic Survey 2000-1, p. 58.

²⁵ Keynes (1921), p. 263-4.

macroeconomic implications of the interest rate policy has been severely overlooked in India. The interest rate has been seen as a microeconomic allocation mechanism, with, additionally, perhaps excessive concern shown for savers' income security. Its destabilising potential can now be seen.

While high real interest rates may have killed off the boom in the manufacturing sector quite directly, an indirect cause may have been the declining budgetary support to capital formation that has been shown to have taken place in the nineties, in Table 4. While I have not established it in this paper the data over the two decades are suggestive of this. The 1980s, when both agriculture and industry grew quite rapidly with agriculture registering some of the fastest rates it has ever, was a period of high and rising public investment. Public investment slows down in the nineties. The impact of this on private sector performance in both agriculture²⁶ and industry are likely to have been felt, even though possibly with varying degrees.

Both the developments that I have discussed in this section, namely a prolonged period of dear money in the second half of the nineties and the steady decline in capital formation in the government sector have relatively gone unnoticed in discussions of this period, with the case of the missing monetary policy, as I've called it, being overlooked almost completely. From the point of view of understanding the relationship between policy regimes and economic growth in India overlooking the role of monetary policy, however, may lead to the erroneous inference that the reforms have been impotent. These two developments introduce the likelihood of macroeconomic policy having had a role in determining the trajectory of growth in the nineties.

III. Conclusion

I gather my conclusions. First, it is by now more or less agreed that the period of the nineties did not witness a significant step up in the rate of growth of the economy reforms have not as yet raised the rate of growth of the Indian economy. This is re-established here. Secondly, the lacklustre growth performance is reasonably traced to the failure to step up investment in the economy. The failure of the rate of growth to show acceleration, especially in industry, is often treated as a failure of reforms to sufficiently energise the Indian economy. While there are several shortcomings to the reforms as implemented in India, among them to effectively address not just the social sector but also physical infrastructure in the economy, I have here suggested that the rate of progress of the economy in the nineties does not warrant the conclusion that the reforms have failed. This I have done by demonstrating that there may not have been sufficient macroeconomic policy support to growth. In particular, I have identified the declining budgetary support to capital formation, especially in agriculture, and the bizarre case of a missing monetary policy. It is often assumed that macroeconomic policy is merely to be called into play during crises, to merely stabilise the economy as it were. The growth experience of the nineties shows that macroeconomic policy is indispensable even in peace-time so to speak. Poor macro management might leave untravelled even the most sophisticated road maps for structural change, usually termed 'economic reforms'.

Table 1
Gross Domestic Investment

Year	Total	Household	Corporate	Public
1991-92	21.9	7.4	5.7	8.8
1992-93	23.8	8.8	6.5	8.6
1993-94	21.3	7.4	5.6	8.2
1994-95	23.4	7.8	6.9	8.7
1995-96	26.5	9.3	9.6	7.7
1996-97	21.8	6.7	8.0	7.0
1997-98	22.6	8.0	8.0	6.6
1998-99	21.4	8.4	6.4	6.6
1999-00	23.7	10.3	6.5	7.1

²⁶ I have elsewhere shown that private investment in agriculture has been stepped up in the 1990s. However, it needs to be considered that private and public investment serve different roles, as one might imagine are the effects on the growth of output of an expansion in irrigation supply and the addition of a tractor a farm. See Balakrishnan (2000). This example is meant to illustrate the possibility of complementarities between private and public investment and that these must proceed broadly in tandem for the growth of productivity even in the private sector.

2000-01	22.5	11.2	4.9	6.4
2001-02	22.4	11.3	4.8	6.3

Source: Reserve Bank of India, 'Report on Currency and Finance 2004'.

Table 2

Savings and Investment in India and the Rest of Asia
(as percentage of GDP)

Country	Gross Domestic Saving			Gross Domestic Investment		
	1971-80	1981-90	1991-96	1971-80	1981-90	1991-96
China	35.8	30.8	40.3	33.9	30.5	39.6
Hong Kong	28.4	33.5	32.8	27.8	27.2	30.4
India	20.5	21.2	22.2	20.5	22.4	23.6
Indonesia	21.6	30.9	30.2	19.3	29.3	31.3
Korea	22.3	32.4	35.2	28.6	30.6	37.0
Malaysia	29.1	33.2	37.6	24.9	30.6	38.8
Philippines	26.5	22.2	16.5	27.8	22.0	22.2
Singapore	30.0	41.8	48.1	41.2	41.7	35.1
Thailand	22.2	27.2	34.6	25.3	30.7	41.0

Source: Reserve Bank of India, 'Report on Currency and Finance 2004'.

Table 3

Public Sector Savings

Year	Savings
1991-92	2.0
1992-93	1.6
1993-94	0.6
1994-95	1.7
1995-96	2.0
1996-97	1.7
1997-98	1.3
1998-99	-1.0
1999-00	-1.0
2000-01	-2.3
2002-03	-2.5

Source: RBI (2004).

Table 4: Fiscal Adjustment in the Nineties (entries are as percentage of GDP)

Year	Fiscal Deficit	Revenue Deficit	Capital Formation	Government Savings	Total Expenditure
1980s average					
1990-91	6.6	3.3	4.9	-1.8	19.6
1991-92	4.7	2.5	5.7	-1.3	18.3
1992-93	4.8	2.5	5.4	-1.2	17.9
1993-94	6.4	3.8	6.0	-2.5	19.0
1994-95	4.7	3.1	5.3	-1.8	17.5
1995-96	4.2	2.5	3.8	-0.8	14.8
1996-97	4.1	2.4	3.7	-0.7	14.7
1997-98	4.8	3.1	3.6	-1.5	14.8
1998-99	5.1	3.9	3.3	-2.4	15.0
1999-00	5.5	3.5	3.5	-2.4	16.0

Source: 'Economic Survey', Government of India.

Table 5

The Interest Rate and Activity

Year	PLR	Real PLR	Investment	Activity
1990-91	16	5.8	5.7	7.4
1991-92	19	5.3	6.5	-1.0
1992-93	19	8.9	5.6	4.3
1993-94	14	5.6	6.9	5.6
1994-95	15	2.4	9.6	10.3
1995-96	16.5	8.5	8.0	12.3
1996-97	14.5	10.1	8.0	7.7
1997-98	14	9.6	6.4	3.8
1998-99	12	6.1	6.5	3.6
1999-00	12.5	9.2	4.9	6.9

Notes and Sources: 'PLR' – the prime lending rate - is from the 'Economic Survey 2000-01'. Real Rate of Interest' for all years during 1994-2000 is from the 'Survey', for other years it has been calculated as the difference between the PLR as found in the 'Survey' and the inflation rate taken from the same source; 'Investment' is corporate investment as share of GDP, as in Table 1; 'Activity' is the year to year rate of change of industrial sector GDP in 1993-94 prices, drawn from the 'Survey'.

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Chart 1
Growth Trajectories

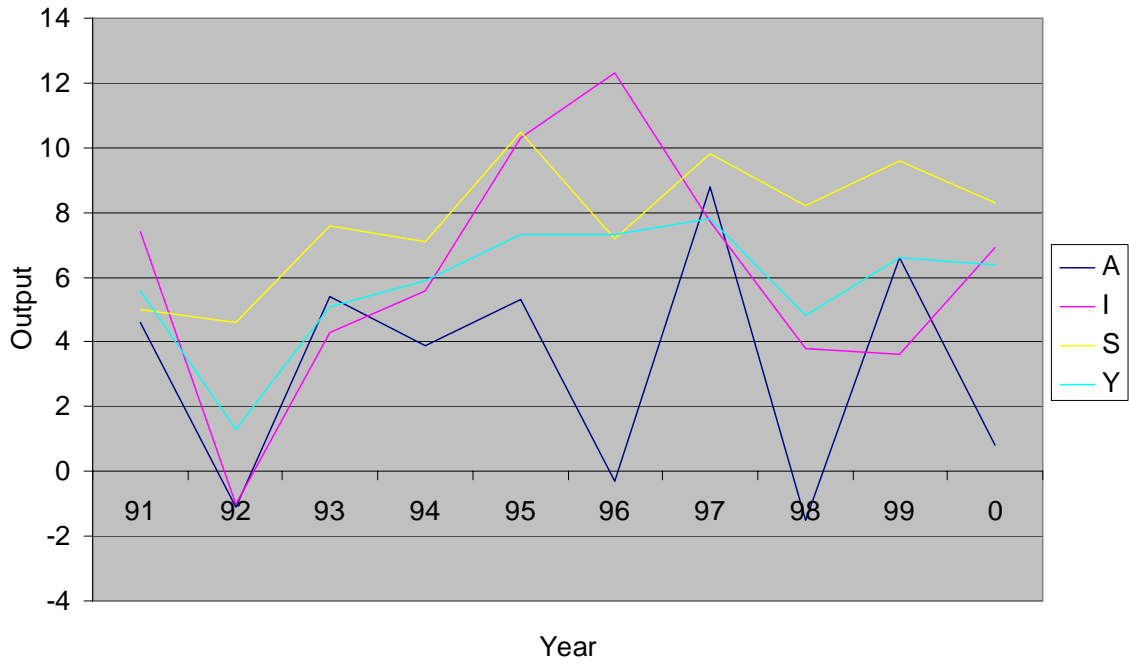


Chart 2
Inflation and the real interest rate

