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Title
Essays on India’s Economic Growth

Permalink
https://escholarship.org/uc/item/9qr7z6x1

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Publication Date
2009-09-01

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Essays on India's Economic Growth

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September 2009

Introduction

This is a collection of essays written for the Financial Express, an Indian financial daily. There are several themes that I explore in these pieces. The most basic is that of the overall process of, and environment for economic growth in the Indian context. Another strand examines different sectors and their past or potential growth contributions. A third issue is one that often has dominated recent policy discussions in India, namely, how to make growth more inclusive or broad-based. This is related to a fourth theme of these essays, that of governance and policy making in India. A fifth theme of the essays is money and finance in India, again in the context of development and development policy. Finally, I comment on management and management education as a potential contributor to India's growth. The essays sometimes cut across themes, but I have organized them loosely into these six categories. The two dozen or so pieces were written between May 2006 and January 2008, but I think they still have relevance, as the issues they explore are long-run questions about India's economic growth and its sustainability. I have attempted to draw on economic analysis in assessing current issues, but the presentation is relatively non-technical.

1. India's Growth Story

Understanding India's economic growth

Thursday , May 18, 2006

In Hollywood horror movies, the monster often appears to die, only to unexpectedly (if we don't know how long the movie is) rear its head for a heart-stopping finale. I feel a bit like that about discussions of India's growth performance in the last 25 years. Here was the recent state of play. After the initial euphoria about liberalisation, a revisionist view was articulated by economists like Brad DeLong, Dani Rodrik and Arvind Subramanian, that economic policy reforms in the 1990s were not key to India's growth performance. Those authors further argued that India's growth surge is properly understood as beginning in the 1980s, before the 1990s economic reforms. Arvind Panagariya offered a careful review of the evidence, and reached three conclusions:

One, growth during the 1980s was inconsistent, with the last three years of that decade contributing 7.6% annual growth, without which growth in the 1980s was only marginally better than that of the previous three decades. Two, the high growth in the last three years of the 1980s was preceded or accompanied by significant economic reform, including trade and industrial policy liberalisation. Three, growth in the 1980s was fueled by expansionary policies that entailed accumulation of a large external debt and contributed to an economic crisis. Panagariya's own conclusion from his review of policy changes and growth performance was that "the 1991 market reforms and subsequent liberalising policy changes…helped sustain growth."

In fact, Rodrik and Subramanian seem to have moved closer to accepting this reform perspective. In a second piece (published in EPW), while they focus on 'meta-institutions' such as democracy and the rule of law, conventional economic inputs such as human and physical capital, and productivity growth (in the process, highlighting the infrastructure and human capital built up under the pre-liberalisation policy regime), their assumptions about the impacts of policy are not that different from those of Panagariya, since they state, "policy liberalisation will progressively erode the licence-quota-permit raj as a source of corruption and patronage that has had such a corrosive effect on public institutions." In addition to this indirect effect, they also attribute productivity growth directly to reforms that removed the "shackles on the private sector."

Now, in *EPW*, Atul Kohli offers a resurrection of the revisionist view, in a new form (like the Hollywood monster that increases in size or takes on another shape). In addition to appealing to previous revisionists, he offers an analysis based on Indian politics. He distinguishes between "a pro-market strategy [that] supports new entrants and consumers" and "a pro-business strategy [that] mainly supports established producers." His conclusions are typically pessimistic, since he views the pro-business model as being driven by a narrow elite for its own enrichment, with little benefit for the masses. The pro-business model is viewed as operating under the cover of pro-market rhetoric associated with the 'Washington consensus' and 'neo-liberalism.' Kohli himself does not favour the 'statist' model of Japan and South Korea, but rather the 'social democratic model of Scandinavia.' I think these labels, and Kohli's discussion, miss the point, as well as the realities of what happened in India. Of course there is an Indian elite that looks after its own interests, and, given the chance, will move India towards a Latin American situation with extreme income inequality, continued poverty and high levels of social conflict. Some of the danger signals are there already. Of course markets do not operate perfectly and often need regulation or government intervention. But the positive part of what happened in India has much to do with competition, entry and innovation. This is missing from Kohli's story, and understanding this part of the story tells us where India has to go next.

India's IT industry illustrates best. It operated under the radar, but still was choked by government restrictions on entry and operation of business. Liberalisation (and initial government neglect) allowed it to flourish, with people from all backgrounds participating. Narayana Murthy, for example, has been very

clear on this. When IT became successful, it was important that the government provided infrastructure (just as it had supported the creation of the necessary human capital) for continued success. It was also important that the government implemented policies that were not anti-business—the market discipline came from the demands of foreign firms that were customers.

The spillovers from this success to ITeS all over the country, and even to some manufacturing enterprises in the South (would TVS have won a Deming award without the need to compete?) are an indicator of the transformation that began to take place as a result of market competition. There was tremendous entry, some unsuccessful. Of course many of India's existing businesses have also done well, but often only by becoming more efficient.

Indian policy needs to support this process of creative destruction, by further opening up Indian industry and formal-sector labor to market competition. Equally importantly, policy needs to increase access to education for all, so that there is greater competition for jobs at the top of the pyramid, and more people who are qualified to take jobs at every level. This requires increasing investment (including private and foreign) in education, not just a shell game with quotas. The 'Left' in India is repeatedly, in effect, coming down on the side of privilege and the status quo. The monster of misunderstanding India's growth process needs to be laid to rest.

Making the most of FDI

Thursday , October 12, 2006

India is growing robustly, in spite of high oil prices and a global economy that shows signs of slowing. Domestic business confidence is high: the NCAER April-September 2006 business confidence index reached its highest level since November 1994. Foreigners, too, are optimistic. While the growth in portfolio flows is likely to slow, FDI is projected to continue to increase, and its flows will probably overtake net portfolio investment in 2006-07. The sectoral and regional scope of FDI remains narrow and these foreign capital flows are still relatively small. But given their potential growth, it is useful to assess the evidence on the impact of foreign capital on developing countries.

Recently, several economists, including Raghuram Rajan, the IMF's research director, have been marshalling evidence that not only is capital flowing from poor to rich countries, but the impact of foreign financing on developing countries is negligible or negative. My colleague Joshua Aizenman, with co-authors Brian Pinto and Arthur Radziwill, drives home this point by constructing a self-financing measure , which turns out to be positively correlated with growth, even after controlling for the quality of domestic institutions.

Empirical studies tend to find somewhat different, more positive results for developed countries. This is consistent with a hypothesis that adequate domestic financial development is needed for foreign capital to be absorbed effectively. Direct tests tend to bear this out as well. In addition, Rajan and co-authors Eswar Prasad and Arvind Subramanian find that industries relying more on external finan-cing, as opposed to retained earnings, grow faster. And, of course, many studies find that FDI, specifically, has a positive impact on economic growth.

What are the lessons for India? First, one should not read too much into these studies, since they typically look at heterogeneous cross-sections. While the empirical patterns should be useful guides to policy, they do not reveal any magic bullets, one way or the other. Nevertheless, one can glean some in-sights into policy directions. First, the studies suggest that a focus on domestic savings and improved fin-ancial intermediation at home can have growth payoffs. The evidence tends to suggest that savings are pulled up by economic growth, rather than vice-versa, and since domestic savings can be wasted or exported, perhaps having good financial institutions matters the most. India has a lead in this area, especially in equity markets, and policies that help deepen and extend India's financial sector ought to be a high priority, from this perspective.

Second, if the cross-country evidence is accepted, foreign capital inflows will have a higher payoff the better domestic financial intermediation becomes. In any case, FDI seems a better bet for spurring growth than other foreign financing, since it typically comes packaged with technological and organisational know-how. Continuing to push policy towards smoother FDI approvals and fewer restrictions seems to be indicated by what we know about developing country experience. FDI in the financial sector has some special issues. On the one hand, it provides the general benefits alluded to above. Greater competition may also lead to stronger domestic firms, as they respond to entry. On the other hand, there is the danger of cherry picking by foreign entrants. Actively consolidating and strengthening domestic incumbents (especially public sector banks) is indicated in this case. Everything suggests that Indian policy is proceeding in this direction in a measured fashion. One area where boldness can pay off is higher education—the severe constraints in that sector can be met by opening up to foreign investment more confidently than the timid approach recommended by the CNR Rao committee. China is doing just that.

What about capital account convertibility? If it leads to volatility and an even greater likelihood of crises, as some (but not all) other studies suggest, and has no obvious growth benefits, then maybe it is not a good idea. However, there is evidence that capital controls have costs in terms of forgone trade. Further, they can lead to distortions and corruption. Again, a measured, integrated approach towards openness on the capital account seems reasonable (especially since so much has been done piecemeal since 1997), and the general policy direction is right, though some of the specific recommendations of the second Tarapore committee are hard to fathom, as made clear in member Surjit Bhalla's dissent.

Finally, what about infrastructure, the pressing constraint for India? RBI governor YV Reddy, in a September 28 speech, said that, "the financial sector in India is no longer a constraint on growth and its strength and resilience are acknowledged, though improvements need to take place. On the other hand, without the real sector development in terms of physical infrastructure and improvement in supply elasticities, the financial sector can even misallocate resources, potentially generate bubbles and possibly amplify the risks." I think the crucial point is really somewhat different—the financial sector in India has to be developed in a way that it can assess and finance large, complex infrastructure projects that may even have public sector components. The sector's development can then facilitate infrastructure development, with foreign money a key potential source of funds. This has yet to occur in any significant way.

The weaknesses here also lie with governance institutions—corruption and incompetence can sometimes loom large as barriers. The old two-gap model postulated savings and foreign exchange gaps as constraints to development. Neither one matters for India any longer. Instead, the country's main problem continues to be its governance gap.

Productivity in India and China

Thursday , February 01, 2007

As someone from India who has lived in the West much of his life, it is gratifying to see the country receive so much attention in the Western media for its economic success, and not just its exoticness or internal turmoil. India's growth performance has improved enough for it to receive regular coverage, including comparisons with the 800-pound gorilla of economic growth, China. Hewing to this new fashion, The Economist's January 27 issue highlights recent studies of total factor productivity (TFP) growth in India. One study, by Barry Bosworth and Susan Collins of the Brookings Institution, together with India's own Arvind Virmani, performs detailed TFP calculations for India. Another, by just Bosworth and Collins, compares India with China.

Several key points apparently emerge from these studies. First, China continues to outdo India in TFP growth. Second, its lead on this count is most pronounced in agriculture, followed by industry. Third, India's service sector growth might be overstated, so that India's seeming good performance in this sector relative to China might be a mirage. Fourth, the consequence of the last point is that India's overall growth might be overstated by the official figures. The conclusion from The Economist is unobjectionable: boost

industrial productivity through bolder reforms. Nevertheless, policy formulation is best done with a deep understanding of the ground realities, and the processes of change. What is really happening to productivity in India?

Before answering this question, keep in mind the pitfalls of aggregate TFP calculations. Fifteen years ago, Alwyn Young caused a stir by claiming that East Asian growth was all input driven, with TFP growth not out of the ordinary, and that Singapore was the worst performer in these terms, likely to suffer from diminishing returns to excessive physical investment. It turned out that Singapore continued growing quite rapidly. So did East Asia in general, barring the 1997 financial crisis. Investment was certainly significant for growth, but so was the structural transformation that TFP imperfectly tries to capture. In the US, Robert Gordon continually expressed scepticism that information technology was having any impact on the US economy, just before the data indeed began to show accelerated TFP growth. Data problems, measurement differences, and the fact that aggregate TFP is calculated as a residual mean that it gives a limited picture of the underlying economic processes.

In the latest India-China comparison, several points can be made. First, the focus seems to be on India's data issues, and those are brought out because there is an insider on the research team. Data and measurement problems for China get ignored. For example, The Economist quotes a figure of 33% for the share of services in China's GDP. Yet a year ago, this figure was revised at a stroke to above 40%, as China redid its calculations. Second, data biases can go the other way: many personal services in India are under-reported, to avoid income-tax. Third, the case against service sector growth in India is partly based on unusually strong growth in 'traditional' services such as transport and retailing, rather than high-fliers such as finance and telecoms. But there is a conceptual case to be made that traditional services have improved in efficiency as certain kinds of transaction costs have been reduced. An input-output analysis of India's growth seems to bear this out (see my December 2006 FE column). Putting aside these issues, seeing what is going on with productivity in India requires digging deeper, using microeconomic studies. One firm-level study finds evidence that both India and China could increase productivity dramatically if all firms were as efficient as the best practitioners in their industries, but this is not surprising, and the data for India is old, going back to 1994-95. Other microeconomic case studies suggest that at least some pockets of industry have adapted and become more efficient in response to increased competition. Information technology adoption is also yielding measurable gains. Yet other studies suggest that management practices and financing constraints often continue to hinder adaptation. Some of the greatest problems seem to come from poor government regulation—poor both in design and in quality of implementation. Doing business in India is still too costly, especially for smaller firms. All sectors could benefit from policies that reduce these costs, without using reservations, quotas or excessive subsidies.

Hence, while there is a place for the headline-grabbing macroeconomic calculations and comparisons, the real issues have to be tackled at the micro level. Understanding the process of transformation in India's business firms is critical, and more empirical work is clearly needed. More enterprise-friendly policies will require coordination at the national, state and even local levels. SEZs, as currently conceived, are probably an inefficient and needlessly costly way to achieve the needed improvements in business climate, but perhaps are better than no policy initiative at all. They create small enclaves when India needs to broaden its entrepreneurial success stories throughout its hinterland.

Here, then, is my prediction. If India's policymakers get things even one-quarter right with respect to the business environment (including fixing the education system and overall governance), the next comparison of India and China's productivity will show that India is indeed catching up with the other global giant.

Just how risky is India?

November 22, 2007

A decade ago, I remember, I would read dire assessments about the dead-end, low-level nature of India's export-oriented software jobs. About the same time, I was at a conference on India's economy at Cornell

University, where a prominent Leftist economist mocked the idea that India could ever grow consistently at 7% per annum. India's economy has repeatedly proved pessimists wrong. But even with more confidence in India's long-term growth prospects, there can be concerns about short-term risks.

The Economist recently ranked 15 large emerging economies according to potential economic risk, and India finished at the bottom of that table. The measure of risk used is simple, aggregating rankings across four categories: current-account balances, budget deficits, credit growth and inflation. Admittedly crude, the measure incorporates factors that have signalled problems in the past. However, it misses many features which put India in better light. India's foreign exchange reserves are not in the same league as China's, but as a percentage of GDP or of trade volume, they are comparable to many other emerging economies, and certainly more than adequate for dealing with a liquidity crisis. In fact, India's size and composition of external debt looks very favourable, even with recent increases in private external borrowing, so the factors that precipitated and, in some cases, deepened the Asian crisis of 1997 do not seem to be significant now for India. India's currency is not greatly overvalued, and a depreciation as a result of some reduction in capital inflows might even help the economy. India's size and relative insularity make it unlikely to face the extreme external credit crunch or currency plunge that characterised the 1997 crisis, despite a current account deficit that puts it ninth among the 15 economies compared.

The above points reflect the idea that risk can be nonlinear in measured variables, as well as the failure of the measures to capture ability to respond to shocks. However, the motivation for the ranking is not just assessment of overall economic risk, but also specific risks for external investors. Currency depreciation can eat into investment returns, as can an economic slowdown or an end to any irrational exuberance in the stock market. The signals from India's stock market are mixed. The price-earnings ratio is relatively high, but the increase in stock prices has been less than in several other significant emerging economies. Given the relative efficiency of Indian stock exchanges, one is tempted to assess the risk of a sudden drop in domestic share prices as being low, relative to other "Bric" countries.

India does worst in the size of its fiscal deficit, and relatively poorly on inflation. However, here also one can argue that the comparison overstates the risks for India. Compared to several others of the large emerging economies, India's political tolerance for high inflation is much more limited. And while India also has significant off-budget skeletons in its fiscal closet, it is probable that several of the comparison countries are even worse in this respect. Digging deeper into the data and assessing the true risks suggests that India may not deserve to be at the bottom of the risk league.

A final example of the shortcomings of The Economist's rankings comes from the use of the expansion of bank credit. This ignores the quality of credit and the strength of banking institutions and bank regulation. Related to the former point is that the growth of the economy affects how we interpret credit growth. India and the Czech Republic both have bank lending growing at 24% annually. But India's GDP is growing a couple of percentage points faster, and it is undergoing a more dramatic structural transformation and financial deepening than the much more mature Czech economy. Expectations of India's long-term growth prospects are probably driving share prices more than short-term motives. This does not mean that India's stock market must keep going up—just that its recent rise may be explicable.

If India has the capacity to absorb short-term shocks, and its long-term growth prospects are good, the country's riskiness may well be overstated by The Economist's crude exercise. Its own Intelligence Unit provides much more comprehensive assessments of country risk. Four broad categories are considered, with subcategories in each. The four broad risk areas are political, economic policy, economic structure and liquidity. A numerical score is constructed, and a letter grade is assigned, essentially representing a risk class. The numerical scale goes from 0 (least risky, graded A) to 100 (Iraq scores worst among 150 countries, with 87, and gets the only E). India scores 51, which earns it a C. Brazil is at 47, China at 45 and Russia at 57—but these all earn the same C. Interestingly, Thailand, top of the simplified riskiness table, scores 53 and gets a C . Hungary, just two ranks above India in the simplified table, here scores 30 and gets a B.

Ultimately, the problem may be that country risk analysis needs to go beyond simple aggregate indices. It also needs to separate risk more clearly from high costs of operations or transactions. Sophisticated modelling work exists, but eludes popular exercises. Just as doing better credit ratings analysis may represent an opportunity for Indian firms (as I suggested in my September 27th column), so may country risk analysis.

Sustaining India's growth

December 20, 2007

"It is possible that with the correct set of policies we will not only be able to maintain this momentum of high growth into the near future but may be able to raise it to 10%." This statement by Prime Minister Manmohan Singh, in the face of a world economy acknowledged to be slowing, is a welcome dose of optimism, and also a challenge. What is the correct set of policies? On the microeconomic front, there is probably considerable agreement about measures that can remove some of the constraints to growth, especially infrastructure improvements that increase operating efficiency. There is less appreciation of the efficiency enhancing impacts of competition, whether in financial markets, labour markets or product markets. Nevertheless, the most difficult issues with respect to microeconomic reform may be political and ideological—the battle of ideas I wrote about a fortnight ago.

In the case of macroeconomic policy, there is somewhat less unanimity among economists, whether it is about exchange rates, interest rates, or capital controls. Monetary policy may not impact long run growth in the normal course of things, but macroeconomic mistakes can have very severe, and possibly lasting, consequences when they disrupt the real economy. Indonesia, Argentina and other examples illustrate the costs of getting macroeconomic policies wrong. In that context, Indian monetary policy makers are perhaps right to be satisfied with their performance.

In a December 3 speech at Yale University, RBI Deputy Governor Rakesh Mohan said, "The overall macroeconomic record of the Indian economy since the early 1990s indicates an acceleration in growth and a significant reduction in inflation. Pre-emptive monetary and prudential measures have led to this welcome situation of a reduction in inflation and acceleration in growth while ensuring financial stability."

The greatest disagreements with respect to macroeconomic policy seem to lie in the realm of exchange rate management. Deputy Governor Mohan stresses concerns about exchange rate volatility, in the context of a domestic financial sector that is insufficiently developed to insulate the real economy, particularly smaller producers, from the impacts of volatility. A different concern has been with the level of the exchange rate, with some arguing for a bias toward an undervalued rate, to promote export-led growth—the classic "East Asia model."

Concerns about fluctuations and level have been somewhat intermingled in the recent Indian debate. While the appreciation of the rupee has hurt exporters, particularly small firms, its short-run impact may have been overstated. What was unfortunate, of course, was the suddenness with which the appreciation occurred, earlier this year. In this context, the problem was partly the lack of domestic institutions and instruments that would allow smaller firms to manage risks of exchange rate fluctuation. Thus, an approach to financial sector development that emphasises gradualism in order to contain risks may actually be contrary to what is needed. Recent experience may support the position that the risks are there, like it or not, and must be managed in a decentralised manner within a market framework, not through attempts to insulate enterprises from such fluctuations. Prudential regulation is not the same as prohibition.

With respect to the exchange rate level, the economics of the East Asia model rely on the existence of positive spillovers from exporting sectors to the rest of the economy, and even then, the exchange rate is an inferior policy tool to ones that directly optimise those spillovers. It may be that such policy alternatives are politically infeasible, but that argument needs to be made explicitly, and the spillovers need to be identified and quantified to the extent possible. To return to an old theme, neither the RBI nor key ministries seem to

have a transparent, empirically tested model of the Indian economy that would provide good guidance on what the "correct set of policies" should be, if long run growth is to reach double digits.

Putting aside these long run issues, what is the right macroeconomic policy for the short run in India? The US Federal Reserve has been very proactive in cutting short term interest rates, even in the face of food and energy inflation that is uncomfortably high, and continued large fiscal and current account deficits. The rationale for these actions is the continued credit crunch, as more bad loans surface and large write-downs take place. If the world economy is going to slow as a result of the deflation of animal spirits, then the European Central Bank should also be moving in the direction of the US Fed, as the Bank of England has done. The RBI, as it struggles to sterilise capital inflows, may do well to be more proactive in this respect than the ECB, since Indian inflation seems in check, the consolidated fiscal position of the government has improved, and a US slowdown seems inevitable. The RBI was perhaps a bit slow to raise rates when there were signs of overheating—it should not repeat that tardiness in the opposite direction. An interest rate cut will not affect long-run growth, but it will help keep the economy humming for the short term, avoiding a severe slowdown.

2. Sectors

How IT matters in, and for, India

Thursday , July 13, 2006

Three years ago, Nicholas Carr argued, in a Harvard Business Review piece with that title, that "IT Doesn't Matter." What he meant specifically was that IT (information technology) was being oversold as a source of competitive advantage. Instead, IT had become commoditised, making imitation easy. To drive this point home, Carr compared IT to electric power a century earlier, when it was new, scarce and required specialised management. None of that is true any more.

Some of the reaction to Carr's argument was predictable. IT firms didn't like it. "Hogwash!" said Steve Ballmer, CEO of Microsoft. Carr was "dead wrong" said Carly Fiorina, then CEO of Hewlett Packard. A lively and nuanced academic debate ensued about the strategic role of IT, with both sides marshalling various case studies in support.

Meanwhile, the data in industrialised countries were revealing something interesting. Initially, paraphrasing economic Nobel laureate Robert Solow, computers were supposedly everywhere but in the productivity statistics. Later studies found, instead, that IT was making an important contribution to aggregate productivity growth in industrialised countries.

The microeconomic studies were even more illuminating. They found that at the firm level, there was solid evidence for the benefits of IT in terms of productivity and profitability, provided that certain organisational innovations took place. Not surprisingly, relatively more skilled labour, organised in a more decentralised manner, was important in realising the gains from IT investments: the two kinds of inputs are complementary. Countries for which such studies exist include, besides IT-leader the United States, Australia, Canada and several European nations, all highly developed economies.

For the developing world, the data has been less encouraging. At the macroeconomic level, the evidence is mixed, and mostly finds no productivity gains from IT, while detailed firm level analysis has been absent, even for large economies such as India.

Of course, there have been case studies, ranging from the phenomenal success of India's software and IT services firms (which use IT as well as produce it) to the promise of rural IT for reducing transaction costs

and improving market access and functioning (see my May 2005 column). However, the immediate interest lies in between these two extremes, where most of India's modern economy functions.

An ongoing project (in which I am involved) headed by Subhashis Gangopadhyay at the India Development Foundation is tackling the question of the role of IT in this economic space. Using data from the Annual Survey of Industries, and an additional detailed firm-level survey, the project examines the questions of impacts of IT, determinants of IT investment, and policy implications. It is too soon to provide definitive answers, but the preliminary results are striking, suggesting that IT matters positively for productivity, for profitability and for employment (both skilled and unskilled). Note that this contrasts with aggregative results for developing economies, and the results are in some ways stronger than those for industrialised countries.

Some reflection suggests that both observations have a common root. Unlike in developed countries, IT use in India is still limited. There are a high proportion of Indian firms (especially small firms) that have no IT investments at all—this is a far cry from what obtains in the West.

Thus (as would be the case for developing countries in general), aggregate data would tend to wash out the impacts that IT has in sectors and firms where it is being implemented. This is what happened in early macroeconomic studies with US data. Also, the firms that are adopting IT are in a position similar to early adopters in the US—for them, IT may indeed be an important source of competitive advantage.

Of course (as in developed country studies), it is not IT alone that matters. Management and organisational innovation are also likely to be critical, and the causal relationships are probably too complex to be fully teased out from the existing data. Nevertheless, IT does seem to matter, even when it is commoditised in some dimensions. In fact, that may help Indian firms in the present, as they avoid the past mistakes of their Western counterparts in the early days of IT implementations.

The policy implications must also wait on further empirical analysis, but the positive correlations of unskilled and skilled employment with IT use are intriguing. Even if IT use leads to a substitution of skilled for unskilled labour, the positive output effects through better productivity performance may be a tide that lifts all boats. Of course, the danger is that as more firms take this route, the aggregate impacts will moderate, as early adopters' competitive advantages erode.

IT use will not substitute for policy reforms that make it worthwhile to employ more labour. IT use by itself will not help, if policies to expand the skilled labour force through education are not put into place. IT is not a magic bullet. But understanding the impacts of IT use on Indian firms will provide insight into how these and other firms can be more productive and competitive.

Another area where the analysis may have policy consequences is in understanding the benefits of clustering. The data will permit us to examine clustering in IT use and performance, with possible implications for the new Special Economic Zones and for regional policy in general. As I have argued before, Indian policymaking has too much of a "seat-of-the-pants" flavour. Detailed, careful empirical analysis can help change this.

Bollywood dreams

Thursday , August 17, 2006

Mumbai's cinematic dream factory is older than Hollywood, but has long been dwarfed by it. Although India's film industry recently crossed $1 billion in revenues, this is just about 1% of the global movie business. Many of the 800-plus Indian films shot annually are low budget and of indifferent quality. Deals are done informally, there are many individual entrepreneurs, and little transparency in the business. Most strikingly, Mumbai's underworld is heavily involved in financing Hindi films. Suketu Mehta, in Maximum City, his down-and-dirty tale of Mumbai's underworld and dreamworld (with bar girls thrown in for extra

titillation), even says, “without underworld financing, the Hindi film industry would collapse overnight.” Not, perhaps, the most likely candidate for an economic growth story.

Still, this is the industry that has fans across the world, from Egyptian taxi drivers in New York, to Chinese soldiers in Tibet (whose love for Raj Kapoor got Vikram Seth a free pass into that region, and his first book success). Hindi films are India’s major cultural export, and its diaspora’s most common link with its roots. The film business is also part of a burgeoning entertainment and media industry that exceeds $1 trillion worldwide. Finally, the digital revolution is reshaping the industry in ways that will allow new players to take off. What are the opportunities and challenges?

Digitisation represents a major opportunity for India, by reducing costs of production and distribution. Digital effects often are, and more so as innovation proceeds, much less costly than real sets and props, giving a developing country’s industry a boost relative to established competition. Digital theatrical distribution, once the initial set-up and switching costs are borne, will make rapid, large-scale, global distribution easier, cutting down on piracy.

India’s film industry also has the opportunity to expand its DVD market, with special features, subtitles, and ‘bonus material’ that Hollywood has used to extend its revenue streams. Video game spin-offs, product tie-ins and made-for-TV movies also remain largely un-tapped opportunities. India’s growing middle class is a new market for these multiple, related revenue streams. Every major Hollywood studio is a vertically and horizontally integrated entertainment conglomerate. Disney’s recent acquisition of the Hungama children’s TV channel points to where India can profitably go.

Developing new revenue streams tied in to Bollywood films will provide some relief from the huge uncertainty and risk film industries face everywhere. This uncertainty is one reason why gangsters are important film financiers in India: they have cash to be laundered, they are good at risk bearing, and they can enforce contracts without collateral. (Suketu Mehta also suggests they have the right tastes: extravagant, violent and passionate!) Unsurprisingly, even four years after India’s banks were allowed to invest in its film industry (removing a pointless, paternalistic prohibition), such bank financing remains minimal: the risk profile is not a good match.

Banks are not configured for high-risk, entrepreneurial investing. But other kinds of financial institutions may increase legitimate financing: Hollywood gets investments from hedge funds, which finance packages of films to pool risks. However, as Arthur De Vany, Professor Emeritus at the University of California, Irvine, and author of *Hollywood Economics*, points out, risk pooling alone may not help when individual projects have returns with infinite variance—a consequence of the high chances of big hits and total flops. De Vany suggests new kinds of contingent contracts, based on extreme outcomes. These, too, are used in Hollywood to share risk more effectively without stifling creative risk-taking.

As Hollywood illustrates, multiple revenue streams do not remove the large underlying uncertainties, so India’s film and financial industries should jointly develop new, best-practice financing modes and contracts. This will help Bollywood be globally competitive, and leverage its enormous talent. For this to work, the industry will have to be far more corporatised and professionalised. It will also mean greater transparency of process and contracting. There will still be scope for financial shenanigans, especially at the expense of starstruck individual investors (as still happens in Hollywood), but some degree of corporate professionalism will allow the industry to tap new financing sources. India’s IT and ITeS firms have demonstrated the value of corporate professionalism.

Are any policy nudges needed? India’s financial sector is on the policy radar for achieving global excellence. The film industry is a natural customer for innovative financing. Surprisingly, Indian films are often shot abroad, not just for exotic locales, but also for greater ease of doing business. So there is scope for state governments, and even the Centre, to make film production in India more attractive. The more important technical aspects could be areas for expanded ‘vocational’ education. New know-how for stunts and make-up, as well as for digital wizardry won’t hurt. The latter, of course, is already developing as an

offshoot of IT. Thus, removing obstacles to doing business, and to organisational innovation is what policymakers can do. Perhaps India's actor-politicians can contribute to achieving this end.

Drivers of India's Growth

Tuesday , December 12, 2006

Economic policy debates in India often proceed without the analytical foundations that have been tested against data. Casual empiricism certainly suggests that the country's poor infrastructure continues to be a major constraint on growth. Comparisons with China, made frequently by observers both casual and otherwise, seem to drive home this point. Yet, an economist would need any relationship between a sector of the economy and economic growth to be mapped out with due rigour. The question that arises, therefore, is this: can one say anything more about the impact of particular sectors of the economy on overall growth? The answer is, yes.

For many years, government statisticians have produced detailed input-output tables of the economy. These tables give one a snapshot of the economy's structure, including linkages among various sectors. In an earlier column, I had noted that this approach suggested that linkages from services to manufacturing were quite strong. However, this conclusion told us nothing of much use about growth potential.

Almost a decade ago, economist Mukul Majumdar, with his then student Ilaria Ossella, provided the precise theoretical underpinnings needed to tackle the question of what the key sectors that have a strong bearing on overall economic growth might be. In this important work, they showed that under some specific assumptions the maximal growth rate for the economy could be derived from an analysis of the input-output structure. They went on to apply this insight to pick out key sectors. This was done by looking at the impact on the maximal growth rate of proportional reductions in all the input requirements of a single sector, and repeating this for each sector. Key sectors are those where the growth impact would be the largest.

For their part, Majumdar and Ossella conducted their analysis for 1989 data, before economic liberalisation had really taken hold. Recently, I applied their technique to 1998-99 data and came up with some striking results. The theory serves to predict the relative growth factor from increasing efficiency (in this case, for a 5% reduction in input requirements) in each sector taken as a single. To calculate the growth rate impact, one has to assume a base growth rate, which I set for the purposes of this analysis at a conservative 6%.

Using the technique, I arrived at the 10 (out of 115) most important leading sectors for the Indian economy, based on growth impacts of efficiency improvements. They were as follows:

- Electricity, gas/water supply (7.14)
- Iron, steel and ferro-alloys (6.52)
- Non-ferrous basic metals (6.40)
- Other services (6.32)
- Other transport services (6.29)
- Railway transport services (6.21)
- Coal and lignite (6.19)
- Trade (6.17)
- Misc manufacturing (6.17)
- Inorganic heavy chemicals (6.14).

Take a closer look at the list. Featured in brackets is the boosted growth rate, with 6% as base, that could be expected upon a 5% improvement in efficiency. Electricity, gas and water supply, for example, has a figure of 7.14%, and is by far the most important leading sector. This is exactly what Majumdar and Ossella found for 1989 data. In fact, the sector's growth impact for more recent data is estimated to be even higher than for the earlier data. So it has gained in dominance, if anything, over the reforms period.

It is also worth nothing that several heavy industry sectors feature in the top 10, also paralleling the results for 1989.

A new feature of my calculations is the prominence of services. As many as four services sub-sectors are in the top ten list. The presence of transport and trade sectors strongly bears out the idea that these infrastructure sectors are important for growth. However, the dominance of the electric power sector as a growth constraint jumps out from this analysis. Many policymakers probably understand this general point (one senior official stated it to me over a year ago), but here is a quantified, and objectively derived result from the data: a 5% increase in the efficiency of the electricity, gas and water supply sector would increase the growth rate by over a percentage point. The priority that it deserves is thus amply clear.

I am currently extending these results to update another part of the original Majumdar-Ossella empirical analysis – examining the effect of simultaneously improving efficiency in several sectors. This would give one an idea of what policy combinations might be most effective, and by how much. Another extension will be to update the results to the latest, 2003-04 data. Even without those updates and extensions, however, the analysis clearly indicates that the electric power sector needs serious attention, not just in terms of investment, but also in reforms that will enhance efficiency. (The two are connected, of course, since firms and households use inefficient solutions to get around existing capacity constraints.)

Like any other formal analysis, there are limitations to the exercise reported here. To begin with, the theory is for a closed economy. Moreover, input-output tables do not adequately capture the roles played in the economy by finance and knowledge. And this data does not tell us how to achieve the requisite efficiency improvements. However, there exist workable roadmaps for efficiency-enhancing institutional reform that are well known. What empirical analysis can do is help drive home the urgency of reform, as well as quantify potential benefits. For an economy striving for 10% growth, every fraction of extra growth counts, and there is no denying that this sort of analysis should help focus minds.

India's next growth engine

October 25, 2007

Finance Minister P Chidambaram has reiterated the government's intention to "make financial services the next growth engine for India," including making Mumbai an international financial centre (IFC). The committee report on the latter topic appears to be alive, with the FM indicating that a consensus is being sought on the report's key recommendations. Much of the discussion on the report has focused on the changes required in regulation and macroeconomic policy, and on the overall goals and impacts of financial development. Another aspect of the report, however, deals with what exactly constitutes "financial services". Unpacking this portmanteau term may be the key to progress in this sector, especially given the reform difficulties.

The IFC report lists 11 areas of financial services: fund raising, asset management, personal wealth management, transfer pricing, tax management, corporate treasury management, risk management and insurance, exchange trading of financial instruments, financial architecture for large projects, M&As, and financing for public-private partnerships. There is one additional area, which I discussed in my September 27 column—rating services. We can organise these different kinds of services more compactly to understand India's prospects in various segments.

First, pure knowledge services are perhaps the easiest for Indian firms to engage in. Providing advice and guidance on the quality of financial assets, on tax matters, and on other issues where market participants require specialised information can be done without too much new institutional infrastructure. The main requirements are access to the appropriate skill and talent pools, and reputation. The reputations of global financial firms operating in India are already established, so it is the Indian firms that will have to find some way to compete effectively. Otherwise, the big rewards will be reaped by foreign brands, not Indian knowledge experts.

Second, exchange trading of financial instruments also represents a large opportunity for India. Electronic exchanges build on Indian expertise in managing IT and IT-based projects, and there is tremendous room for growth in trading a variety of financial instruments. One global trend has been that of packaging idiosyncratic assets into more standardised securities, more easily supporting exchange-based trading. Current policies stifle much of this potential in India, or move it offshore. Exchange-based trading is not only a bread-and-butter opportunity for India's financial services sector, but it helps develop other segments, since the ability to trade efficiently provides liquidity and encourages the creation of financial assets in the first place. The IFC report offers details on what needs to be done.

Exchange trading of standardised assets is a low-margin but high-volume business. Many financial assets are inherently idiosyncratic, or difficult to price for other reasons. Often, financial firms make their largest profits from deal making in such financial instruments. Again, reputational entry barriers can be high. However, Indian firms can get an advantage if they combine the deal making with specialised knowledge on asset quality, as well as expertise in financial engineering—that is, the creation of new financial assets and contracts. A transparent regulatory regime, free from nitpicking controls and threats of sudden or arbitrary changes in policy, will help turn Indian firms into significant dealmakers.

Financial engineering can be a pure knowledge service, but is much more valuable when combined with the ability to sell the financial products thus created. Personal wealth management, risk management, corporate treasury management, and general asset management can all have a financial engineering component. In fact, innovations here may be the entry point for Indian firms in these areas of financial services. Essentially, where cost advantages are not important, competitive advantage will come from creating more value for clients. Again, streamlining the regulatory regime will be important.

What is being proposed above is a business strategy perspective on the financial services sector, to complement the macro perspective that dominates public discussion. While the IFC report is correct in shying away from "industrial policy" recommendations, it does identify areas where Indian firms may have a potential competitive advantage. These include exchanges for bonds, currencies and derivatives, asset management based on algorithmic trading, and IT-based back-office components of the financial services value chain. The trend towards using IT more heavily—for research, transactions and overall information management—is the driving force for such services.

For success, Indian financial services firms will also need access to more people with the right skills. The IFC report has some excellent recommendations for increasing domestic training in areas such as financial engineering, as well as allowing a greater inflow of human capital from abroad. Relaxing the human capital constraint may be the policy area where the rate of return is the highest. One might also involve some of India's existing academic talent in areas such as designing new trading institutions: the country has some of the world's top economists who work on mechanism design and implementation theory, which has emerged from academic obscurity with this year's Nobel Prize in economics. Many recent financial innovations emerged directly from academia, and this avenue should not be neglected in building India's financial services sector.

3. Inclusiveness

Approaching inclusive economic growth

Thursday , September 14, 2006

The recent Planning Commission approach paper and the robust (and public) responses from the RBI and the finance minister offer a great opportunity to get some clarity on India's growth strategy. It's good to begin with what everyone agrees on.

First (just to make it explicit), growth is good and faster growth is better, other things equal. Second, India needs more inclusive growth—this goal is driven by pragmatism (reduce social conflict) as well as idealism. Third, health and education are areas of paramount importance for improvement—again, this is supported by practical considerations and by evidence, as well as humanitarian motives. India's record here, particularly in its least well-off regions, is shockingly deficient. Fourth, India's public sector is abysmal at delivering services, including those related to health and education.

Given what we all agree on, it is surprising how little consensus there is on how to proceed. Part of the problem is inertia. Obsolete economic models keep getting recycled, as a substitute for hard thinking and careful observation. In some cases, the thinking is shallow, or model-free. Another factor is self-interest: no one wants to lose out from change, or be the one who is blamed if a policy innovation goes wrong. Better to keep saying nice things and suggest throwing more money at old problems. Finally, the issues to be tackled are large, complex and interdependent: there can be a genuine diversity of analysis and conclusions. Thus, the RBI, FM and Planning Commission (PC) can all rationally disagree. It is surprising, though, that the PC approach paper itself has internal contradictions; there is an appearance of schizophrenia in its arguments.

It would certainly help if all parties in the debate made their assumptions and analyses more explicit. One can excuse the FM and RBI for being brief, but the PC does a significant amount of explicit modeling elsewhere. It is shocking that the approach paper's 92 pages lack any explicit analytical framework, or any coherent model.

If that exists, it should have been made public, in background pap-ers reviewed by external experts. This is public money, supposedly being spent for the public welfare. There should be nothing to hide.

Absent the ideal of full information, what can we reasonably say?

First, since everyone agrees that the government is doing a terrible job of spending our money to improve the health and education of the disadvantaged (as opposed to providing many low-effort jobs for the relatively privileged or well-connected—there it does well indeed), it makes no sense to recommend increasing the amount of money that is wasted (the approach paper admits the waste but then says "spend more"—that's the schizophrenic part). This conclusion is independent of the parlous state of India's public finances, and the existence of fiscal responsibility laws. Those factors simply buttress the fundamental point.

But we still need to help the poor and disadvantaged. The reason why government money is wasted is well known. The new way of describing it is "lack of accountability." Put more plainly, the system provides no motivation or incentive for most government employees to spend money well, nor does it usually give them clarity of purpose or the means to act well.

Ultimately, giving greater control to citizens as taxpayers, through decentralisation, will be one way of improving this situation. The app-roach paper suggests this. But the build-up of local institutional capacity that is required will take time. What can be done more quickly? The PC offers minor suggestions, but none of these gets to the heart of the problem.

Essentially, the PC is not, and never will be, equipped to allocate funds to meet local development needs in areas such as health and education. After 50 years, it is still weakly considering measuring outcomes instead of just funds disbursed. It might be successful in a new role of evaluating and funding infrastructure projects above a certain size. But its channeling of funds in countless schemes and programmes will always be futile. The approach paper discusses reform here in guarded terms, but backs off from any real change.

Why not treat the state governments as responsible entities, accountable to their voters? Let the Finance Commission decide all non-capital transfers (making them unconditional), with a new methodology that replaces two ineffectual formulas (the PC's and its own). There is no need to weasel out of revenue deficit targets, or give the states an incentive to copy the Centre in fiscal chicanery.

One could tie this new freedom for the states to requirements that they seriously assign significant tax authority to local governments, improve the working of state finance commissions, invest in building local government capacity, and report the results. They will need to do that to improve their own spending quality: give them a push in that direction.

Any change in the PC's role and functioning can be done without changing any law, let alone the Constitution. If the reform is done in consultation with the states, and designed well, no state will be an immediate financial loser, and each will gain in flexibility. Each will have to be more accountable to its own voters. The PC does not need to lose either—its members could be more productively employed, concentrating on a few big things, where they might realistically contribute positively. Inclusive growth should start with basic health and education. There, improving public service delivery is critical. And that requires changing outmoded government institutions.

A prescription for inclusive growth

Thursday , November 09, 2006

India's economy is growing more robustly than many thought would ever be possible. As one would expect from argumentative Indians, there is a vigorous, continuing debate about the causes and consequences of this growth performance. The main concerns are, unsurprisingly, the sustainability and inclusiveness of the country's economic growth. There is almost total agreement on ends, but debates on means shade into polarisation. Underlying this disagreement is a failure of the conceptual framework for making policy choices. The problem is that discussion is couched in moralistic terms: people and policies are made out to be 'good' or 'bad,' without recognising that everyone has a mix of self-interest and altruism, and that the details of system design are what is crucial to move beyond good intentions to socially positive outcomes. Suppose we step back from entrenched positions and ask: what systemic changes would actually make a difference? What then follows? Here are five key changes for India.

Make it easier for entrepreneurs to start, grow and wind up businesses. Despite the continued rhetoric over the meaning and effects of reforms, it has to be clear by now that private sector dynamism is going to drive growth. Indian industry has become more competitive (see Murali Patibandla's excellent book, Evolution of Markets and Institutions, for some evidence), and therefore more efficient. This process needs to be continued and supported—it will also generate the jobs that India's people need. Specific policy actions include further financial sector reform, bankruptcy reform, a redesigned competition policy, and government regulation, especially at the state and local level, that supports a level playing field.

Restructure the civil service. The paradox here is that enormous talent and skill leads to such poor results. Incentives and competition are part of the answer. Top civil servants need to be rewarded better, and more transparently, and they need to compete for their jobs, through more flexibility in entry (and exit) at higher levels of the civil service. Reducing numbers at the lower levels through attrition would reduce government's feudal nature as a source of patronage jobs, and help to pay for performance.

Decentralise effectively. State governments should give local governments the authority and resources to really make a difference to their constituents where they are supposed to do so. The center should give state governments the same mandate. In practical terms, this means streamlining the messy and wasteful intergovernmental transfer system, and giving lower level governments more effective tax powers. I have already argued for this *ad nauseum*. Ultimately, this will also put more pressure on politicians to deliver. Higher-level governments will still have to manage the playing field, and prevent local elite capture, without stifling decentralisation.

Pay real attention to health and nutrition. Evidence and common sense tell us that this is fundamental to well being. Economic analysis suggests that direct improvements in health in India have been as valuable to well being as improvements in income. Yet vast segments of the population continue to suffer needlessly. The solution is not to throw money at the problem. The systemic failure is that government has either

destroyed performance incentives for those in the health profession who work for government, or excluded private providers from partnerships. Try public support of private initiatives and joint monitoring of quality of outcomes. Effective decentralisation to the states will also help for public health.

Educate everyone. India's record here is as abysmal as that in health. Again, government intervention has often enervated and corrupted the educational profession at all levels. Needless controls continue to substitute for effective certification and quality monitoring. The evidence here is again that restructuring the system to provide better incentives to those who deliver services (reward good performance, punish fraud, make information available that lets consumers choose better) will do more good than stepping up spending without any systemic change. Education and training at all levels need fixing. In many cases, industry needs to be made a full-fledged partner in changing the system, through funding as well as redesign. Allowing foreign investment into higher education would free up public resources for primary education.

One could add to my list, but it is better to be parsimonious in goal setting. India's government has failed by trying to do too many things. Its laws, regulations and plans still suffer from trying to please everyone, ending up without clarity or coherence. Some of what I have left out will be driven by what is included. What's new, then? Maybe the means (single-mindedly emphasising incentives, information and competition) are new, not the ends. That is part of the answer to why things haven't changed so far—we need to learn better. Another reason lies in interest groups—Raghuram Rajan and Luigi Zingales have recently formalized this idea in a model where sectoral coalitions hold back education and institutional reform. The solution to this logjam is to alter endowments, but there is no obvious mechanism to achieve this in their model. My own suggestion is that India's size and diversity may help. Effective decentralisation may allow regions with growth-supportive coalitions to flourish in the short run, and pull up the rest of the country in the long run. In that case, the third of my five changes will be the lynchpin of growth for India.

Budgeting for inclusive growth

Thursday , March 01, 2007

As India's economy and polity have matured, the annual Budget exercise has become less significant as a shaper of policy. This year, with sustained economic success apparently in the country's reach, the finance minister's task has perhaps never been easier.

Still, the Congress just lost two state assembly elections, and if inflation stays too high, that (coupled with the deeper problem of rising inequality) could make the ruling party pay a heavy political price.

The fundamental problem, as well stated by the Prime Minister and the FM, is how to increase the inclusiveness of India's growth, while continuing to accelerate that growth towards double digits. The entire Budget should be assessed in the light of that prime objective.

Unsurprisingly, there are significant increases budgeted for rural infrastructure, education and health. These are politically necessary. They also have the potential to make a dent in the need for inclusiveness in growth. But what of the systemic reforms that are necessary to make the increased expenditure well targeted and productive? What happened to the talk of assessing outcomes? Even if these institutional developments are underway, the plans for increased expenditure would have more credibility as genuine moves toward inclusive growth if accompanied by an assessment of progress. In this respect, the kinds of numerical achievements reported in the Budget, such as "drinking water provided to 55,512 habitations," are unreliable indicators of true access, quality or benefits. Speaking of making government expenditure more effective, whatever happened to civil service reform? Why is there no progress report here—though the increased allocation for e-governance may provide the technological means to leapfrog some of the problems of the current organisation of government?

On the plus side, in terms of setting strategic goals, the latest Budget pushes along the tax reform agenda, with plans for a roadmap for the national Goods & Services Tax (GST). There are a host of innovations to strengthen the financial sector, and we can look forward to the report of the committee on making Mumbai a financial hub. Interestingly, in the financial domain, there are proposals that range from new methods of financing large infrastructure projects to ones for providing social insurance for the rural poor. As long as the government keeps enabling such institutional innovations, without trying to dominate implementation, the economy will keep on the right track.

The reductions in various customs and excise duty rates were expected, but still welcome. Even if the justification was somewhat ad hoc, based on the recent rise in inflation, these policy moves are in the right direction. Most of the other tinkering with indirect and direct taxes is unobjectionable, though one wonders about decisions such as the cut in duty for pet food—are pet owners a powerful lobby? People who purchase pet food are certainly not in the 'aam aadmi' category. Much of the detail with respect to service taxes will emerge later, but based on the Budget speech, one is inclined to argue for a simpler approach to indirect taxation overall, with fewer exemptions and rate categories.

Tax breaks to encourage investment and innovation also find their way regularly into the Budget. Some of these make sense, but a five-year income tax holiday for hotels in the vicinity of Delhi, simply for the Commonwealth Games, seems like another bone for those who would do quite well without it, thank you. I would rather see more substantial support for student scholarships and for institutions such as the ITIs, rather than the token amounts they have been allocated. We should stop trying to impress foreigners at the expense of our own janata, especially here—we do so poorly at athletics.

Still, there is plenty in the Budget to be positive about, and many of the seemingly small efforts will eventually add up to significant changes in how the economy operates. In some ways, that has been the ongoing story of economic reforms in India. If the new spending on health, education and agriculture comes with complementary institutional reforms, this may turn out to be a great effort. For now, I would give it a B+.

Reforms for the masses

November 8, 2007

At the same time that India's finance minister has promised action on the report on making Mumbai an international financial centre (IFC), other policymakers have begun to discuss the extension of financial sector reforms to the masses. RBI Governor YV Reddy, in an interview with FE on October 31, said that "The democratisation of the banking system is vital, not just provision of credit. The financial system, banking in particular, is like giving elementary school education. Therefore, the highest priority needs to be given to financial inclusion coupled with financial literacy and credit counselling." Also in October, Planning Commission Deputy Chairman Montek Singh Ahluwalia, in an interview with a McKinsey & Co director, made an even broader statement, in discussing the charge of a new Planning Commission committee on financial sector reforms: "The idea is to take an integrated view of the financial system: looking at banks, capital markets, insurance, microfinance issues, and the whole issue of financial inclusion.... I think financial-sector reforms have to include things like: what's the best financial system to make sure that farmers can get access to credit? What's the best way of making health insurance readily available? What's an environment in which different types of risks can be effectively countered? And how can you ensure inclusiveness in all this?"

Fortunately, while stock markets and high finance may seem to be a far cry from rural credit and crop insurance, the principles that govern the provision of financial services are the same at every level. Basically, financial services involve meeting two objectives: reallocating income across time and across different contingencies or states of nature. Heterogeneity of wants and initial endowments makes markets in achieving these reallocations possible. The inherent time delays and uncertainties associated with financial services are a major source of challenges for smooth market functioning. Hence, financial markets

are always going to be subject to turbulence (to use Alan Greenspan's term). The triumph of modern economies has been to tame this turbulence through good governance, while continually adding complexity and sophistication to financial markets.

Financial market institutions provide matching services, pre-transaction information and screening, post-transaction monitoring and enforcement, and basic transaction completion. Since these can all be quite complex, there are strong economies of specialization through training and accumulated experience, as well as simple economies of scale that arise from the fixed costs of making a market or creating a platform. These economies, as well as the benefits of reputation and (in the case of managing uncertainty) the law of large numbers, all favour the existence of financial intermediaries of various kinds.

The abstract principles just outlined apply to international financial centres as well as to remote villages. In any of these settings, if information is poor, if there are few potential market participants, if enforcement mechanisms are weak, then financial markets may be inefficient, limited, or even non-existent. The differences between the metro and the hamlet are often differences of degree and not of kind. Another very general aspect of financial markets, indeed of any markets, is that lack of competition hurts market efficiency. If either side of the market, or the intermediary, has disproportionate power, that party will earn excess returns at the expense of the less privileged market participants. This applies to village moneylenders and farmers in India, as it does to investment banks and entrepreneurs in Silicon Valley, or to the urban poor and pay-cheque-cashing companies in any number of US cities.

The most powerful means of increasing inclusiveness, or of democratising finance, is to increase competition. This means not only increasing the number of providers of services, but also improving the information and capabilities of the users. The fact that many new mortgage borrowers in the US did not understand the contracts they were signing was a contributor to the subprime crisis. Dr Reddy is absolutely correct that improving financial literacy is important—though this must be seen in a context where even basic literacy is often missing. An overhaul of regulation is sorely needed, however, so that regulation is aimed at increasing disclosure, and allowing for appropriate escape clauses, rather than controlling suppliers of financial services so heavily that competition is stifled, along with all other incentives for efficiency.

Information technology is bringing down many of the costs of screening and monitoring, and is allowing new entrants to provide a wider array of financial services to rural India. Microfinance loans are being securitised, and mini-insurance policies being offered. As growth trickles into rural India, the demand for financial products will increase, and the main constraints on supply are probably poor regulation and the existence of inefficient state-owned incumbents. It may be true that in the past, the state-owned financial institutions helped to get basic credit and deposit services down to the rural poor. But they have also been co-opted by the better-off, they have been wasteful and inefficient, and they have failed to innovate to meet emerging demands. Moneylenders, commission agents and other traditional rural intermediaries have continued to wield disproportionate power in markets for rural financial services. This will change with lowered transaction costs and lower entry barriers, and reform must be driven by these principles, and not introduce new controls. Maybe the best way of making financial services more widely available and affordable is for a committee to pronounce not on what the best way is, but rather on how to create a regulatory environment in which the best ways will emerge through competition and innovation.

4. Governance

Redesigning federalism for better governance

Thursday , June 15, 2006

One way to put India into perspective for those in the West is to point out that India's states have populations comparable to European countries. Indeed, Uttar Pradesh would come in sixth in a national population league table. This size has implications for how India is governed. We all know that India has a federal system, with strong centralising features that were somewhat weakened after the 1990s, as a result of political fragmentation and a relaxation of central economic control. What is missing in discussions of Indian federalism is a conceptual and theoretical framework that can provide guidance for system redesign— necessary in a world that is quite different from that which faced India's Constitution-makers over 50 years ago. This system redesign is crucial for better governance, and ultimately for improving India's growth performance.

M Govinda Rao and I began this task in our book, The Political Economy of Federalism in India, published last year. Recently, TN Srinivasan and I took this process further, in our paper, Federalism and Economic Development in India: An Assessment, presented at Stanford's annual conference on 'Economic Reform in India'—this year extended to consider China, as well as some aspects of Asia as a whole. The oldest concepts of federal system design emphasise cooperation among sub-national units of the federation, to achieve security and stability. A newer theoretical approach stresses the benefits of competition among a federation's component jurisdictions, which improves the incentives of political decision-makers to act in their constituents' interests. Stanford political scientist Barry Weingast contributed a third, more comprehensive perspective, which he named "market preserving federalism" (MPF). MPF encompasses decentralisation of authority over local economies (fostering beneficial competition), as well as hard sub-national budget constraints and enforcement of a national common market (controlling destructive competition).

The term MPF emphasises the benefits of limiting government's scope in restricting the functioning of markets—hence "market preserving." But there is more to federalism than that. Srinivasan and I have coined two new terms to capture these other aspects. In particular, decentralisation, if done well, has the potential to improve the efficiency of government expenditure. The poor quality of government spending has been the bane of Indian development, and this can be changed with system redesign. This is dimly understood in debates about *panchayati raj* and its implementation, but needs to be brought out more clearly. Local government reform is not orthogonal to economic reform, but needs to be a key aspect of it. We have termed this feature "governance enhancing federalism" (GEF).

The issue of hardening budget constraints for India's states has been at centre-stage (pun intended!) for several years now. The 12th Finance Commission made the most significant move in this direction—the only one that will work—by recommending a shift to market borrowing for the states. There are many issues of implementation, but having the market be the judge of states' creditworthiness is critical at this juncture of India's development. In this case, rather than federal system design preserving market functioning, it is the functioning of a particular market that enables the right system feature to be implemented. Therefore, Srinivasan and I have termed this "market disciplined federalism" (MDF).

Thus, adding GEF and MDF to MPF, we have a new trinity of principles for federal system design, or redesign. Weingast began his exploration of the architecture of federalism in order to understand what features work best for economic performance. That is our goal, too. The trinity can ultimately lead to higher economic growth, and more effective development—thus, "development enhancing federalism" (DEF) can be the final result.

Abstract ideas orient our thinking, but concrete policy proposals follow from them. Srinivasan and I have provided several ideas for discussion. The first is for the Inter-State Council to reconstitute itself as a Fiscal Review Council (FRC), to examine the medium and long-term fiscal policies of the states and Centre, as well as make recommendations for them. The Finance Commission has been given some of this role in the past decade, but may not be institutionally best equipped for the task. The second proposal is for a more integrated treatment of Centre-state transfers, including a serious rethinking of the Finance Commission tax sharing formula, and reconstituting the Planning Commission as a Fund for Public Investment (FPI) for both the Centre and states, with a new approach to appraising and funding public capital projects. The third proposal is for reconsidering public expenditure across levels of government, including the design of subsidies, the scope of public sector production, and the goals of horizontal equalisation.

India has certainly been reforming various pieces of its federal structures over the past 15 years. Changes in the Centre-state transfer mechanism and reform of indirect taxes are two examples. However, local government reform has mostly got bogged, and discussions of governance often get lost in myopic battles over short-run resources and power struggles among bureaucrats and politicians. The GEF-MPF-MDF trinity that comprises development-enhancing federalism may give us a conceptual tool to help break out of the cage of severely sub-optimal governance. Again, China shows what is possible. Its federal governance system is far from perfect, but the country has regularly redesigned the components of that system to enhance its economic performance. Weingast characterises China as having a de facto MPF system, which has been crucial for its rapid growth. India can do at least as well with DEF.

Sustaining India's high growth

Friday , March 09, 2007

This column is being written in a hotel room in Cambridge, Massachusetts, where I am about to give a talk on India's fiscal federalism and public service delivery at Harvard's School of Public Health. By the time the column appears, I would have been on a panel at Washington DC's Brookings Institution, addressing the question, 'Is India's High Growth Sustainable?' The latter will, no doubt (and rightly), focus on issues such as infrastructure, managing potential speculative bubbles, and financial development. Yet the two issues, of the state of India's aam aadmi and aam aurat, and the big picture of growth are intimately connected. All the recent emphasis on inclusive growth recognises this linkage—and yet some key links in the chain are missed in policymaking.

I will explain what is missing. Begin with India's current situation and prospects. It is now growing at about 9% a year, and targets of double-digit growth are no longer fantasies. What do the experts think is achievable over a sustained period? I surveyed various studies that use empirical modeling or expert judgments, and the numbers tended to lie in the range of 7 to 8.5%. This band is lower than recent growth figures, but nothing to sneeze at. Some of the predictions factor in continued reforms; others do not. The finance minister thinks that continued financial sector development can add 1.4 percentage points to the growth rate.

In an earlier column, I had reported an estimated boost of 1.1 percentage points from just a 5% increase in the efficiency of the power sector. Implicit in all the numbers is an assumption of continued dynamism in India's private sector, translating into strong productivity growth.

The risks to growth include those from a hard landing if the economy overheats. If the estimates of sustained growth potential are accurate, the economy is going faster than its speed limit. Asset prices and money supply growth point to the same conclusion. The FM and the RBI are both trying their best to slow things down a bit without putting on the brakes too hard. It is hard to judge how well they will do: not only is the economy's structure changing, we do not even have a good empirical model of its aggregate behaviour. In looking at the economy's growth potential, the RBI, in its 2006 annual report, can do no better than quote somewhat limited studies from as long ago as 1999.

Yet, the larger risk that looms lies in the realm of political economy. India is in a somewhat unique position as it strives for 10% growth. Previous achievers such as Japan and South Korea are smaller and more homogeneous. China, the other giant, which has succeeded in sustained double-digit growth, has a political system that is able to command obedience and stifle dissent—it has roared ahead unfettered (at least until recently) by the concerns that India has long faced. India's growth has to benefit a broad range of constituencies in order for growth-sustaining policies to be politically viable. Sectoral reforms do not easily meet this test: power sector reforms will cost jobs and reduce subsidies, while financial sector development will initially help those best connected with the booming market economy. Thus, the government is struggling to use the fruits of growth (enhanced tax revenue) to improve health, education and infrastructure across the vast rural heartland.

The problem is that merely throwing money around will build nothing, and just perpetuate a culture of rent-seeking. Fundamental institutional reforms must complement, and even precede, increased spending on basic public services. Earlier, the FM had spoken of measuring outcomes and reforming the civil service, but there is no public sign of progress. In 2004, the Finance Commission lamented the problems of making sure that money flowed to state and local governments for designated spending. Even money for building local government capacity to manage its money for benefit-oriented spending did not go down through the system. In 2001, the Planning Commission noted problems of absence of teachers and health workers, and recommended decentralisation to improve accountability. In 2006, it repeated the litany of problems, and called for integrated district-level planning. These plans will remain on paper without structural reforms of India's fiscal federal system—this is where my two talks this week intersect. The benefits of growth require institutional reforms to improve public service delivery. This will make other growth-enhancing policies feasible, and high growth sustainable.

In principle, the needed reforms are conceptually simple. Devolve greater revenue authority to the states (reducing incentive-distorting transfers), and greater expenditure and revenue authority to local governments. Over a decade after local government reform, India remains too highly centralised for proper accountability.

I estimate that India's local governments raise about 1% of government revenue, and account for about 5% of government expenditure. That compares with 23% and 51% respectively for China. Thanks to fiscal decentralisation, China's authoritarian system is more responsive to local needs than is India's democracy. It does not have to be that way. Since state governments stand to lose patronage and power, at least in the short run, they are reluctant to proceed. Paradoxically, the Centre needs to lead decentralisation, and develop institutional reforms as the missing link between spending to outcomes.

A new social contract for India

Thursday , May 31, 2007

On May 24, PM Manmohan Singh delivered a landmark speech at the Annual Summit of the CII in New Delhi. He laid out a Ten Point Social Charter as a basis for a government-industry partnership for inclusive growth. The need for a new social contract hits the nail on the head. Without it, India may go the way of much of Latin America, with a rich elite, but with the full potential of the nation and its people unrealised.

To analyse the PM's Ten Points, it is useful to frame them more broadly: the PM was using the occasion of addressing captains of industry to ask them to step up and make a difference. However, industry and government are both manifestations of a spectrum of institutions of collective action, including formal civil society organisations and informal social networks. For decades, government policies strangled civil society as well as business, and changing that will require careful attention to all such institutions. On to the ten points.

One: have healthy respect for your workers and invest in their welfare. The PM seems to imply that an attitudinal change must precede labour law reform, but the key to change may be worker training. There is

no substitute for possession of valuable skills to engender respect in the workplace. How the skills are provided is part of the social contract that needs revision. If firms are to expand their role here, they should be given real policy incentives and opportunities to do so.

Two: corporate social responsibility should be defined within the framework of a corporate philosophy which factors the needs of the community and the regions in which a corporate entity functions. If this is the case, why should the government create SEZs, where firms are insulated from local communities? It would be better to improve local government finances and functioning, to give communities stronger foundations, and allow them to organically attract businesses.

Three: industry must be proactive in offering employment to the less privileged, at all levels of the job ladder. The key to making this work again has to be through education and training, as well as non-discrimination policies. Corporate India cannot dent discrimination through isolated affirmative action.

Four: resist excessive remuneration to promoters and senior executives and discourage conspicuous consumption. Practical policies are needed if this is to work. Controlling executive pay and perks requires more effective corporate governance frameworks, which the government has to help build. Discouraging conspicuous consumption requires calibration of the tax system, though simplicity should be preserved above all else.

Five: invest in people and in their skills. The background here is that the government has crowded out private efforts by restricting entry or favouring political cronies in managing civil society efforts in education and training. The government must create the institutional framework for corporate India to invest massively here, including liberalisation of restrictions and transparent financial support.

Six: desist from non-competitive behaviour. This is totally an area where the government has to step up. Corporations cannot be expected to be angelic. India’s competition policies and their implementation still need modernisation.

Seven: invest in environment-friendly technologies. Again, the key to making this happen is to work through the tax code. But it may be better to encourage innovation of all sorts, combined with enforceable standards for emissions and fuel efficiency. The government must develop a broad institutional framework, not try to pick winners.

Eight: promote enterprise and innovation, within firms and outside. Ditto.

Nine: fight corruption at all levels. Yes, but the government has to take the lead in increasing transparency and self-monitoring, in reducing needless controls that create corruption opportunities, and improving its own selection and training of employees, and organisational culture and incentives. The media and civil society should be allowed more leeway.

Ten: promote socially responsible media and finance socially responsible advertising. This should be the lowest priority for corporate India. It is for citizens to value and demand socially responsible media. Corporate India can create good workers. The government needs to create good citizens, not reduce them to clients of patronage.

India desperately needs a new social contract. The PM has done a wonderful job of bringing the issues to attention. But the solution lies not in corporate India becoming more moral or altruistic, but in pervasive institutional reforms. Three things must happen. First, the government must improve its own structures and functioning. Second, it must provide incentives for business to act in ways that serve a new social contract—this includes legal and regulatory reforms. Doing business in India is unnecessarily costly and difficult. Third, civil society is the key third player in developing a new social contract. The government must stop manipulating civil society organisations, and let them act as a check on corporate excess as well as government failure.

Rule and reform: China vs India

December 6, 2007

Last weekend I took part in a conference at Harvard University, comparing governance and economic reform in the "giants", China and India. Their size, growth rates and long-run potential beg for comparisons, despite the differences in the two countries' political systems and economic structures. The big question, one which loomed over the conference, somewhat unspoken, is whether the giants will realise their potential. In China's case, loss of reputation in manufacturing due to quality issues, environmental damage, and risks of political instability can all be seen as threats to growth. India's negatives seem to arise from political gridlock, and the inability to overcome basic constraints in infrastructure and institutions.

To look clearly into the future, one has to have a good sense of how each country got where it is. What has been the political logic of the process of economic reform in each country? The final two papers in the conference provided an insightful comparison. Mary Gallagher of the University of Michigan told the story of China. My understanding of what she said fits well with a standard story of reform. The Chinese government, centralised through the Communist Party apparatus, skilfully managed the process of change. Reforms were sequenced to insulate potential losers until late in the game, until the winners from reform could build influence. In some cases, potential losers were converted to eventual winners, as growth created fruits that could be spread around. Political will and foresight played an important role in shaping this successful transition. Of course, not everything has been perfect. Letting go of controls has been easier than restructuring. Inequality has widened dramatically, and some groups have been marginalised: there is a growing urban underclass.

The China story, in this telling, involves a traditional analytical framework of competing interests being managed within a set of political and social institutions, with the combination of the two leading to positive change. Yet, underlying the interplay of interests and institutions is the powerful driver of ideas. The shift in the attitude of the Chinese leadership toward wealth accumulation is well known, and almost taken for granted. What struck me listening to the conference papers was that the role of ideas may be the key to understanding the differences in performance between India and China. This represents a different perspective for an economist: before listening to Devesh Kapur's paper on the political economy of reform in India, I would have argued that India lags China because of its institutions and its different interest group structure: democracy versus authoritarianism, fragmentation versus relative homogeneity. Kapur, director of the Center for the Advanced Study of India at the University of Pennsylvania, added ideas explicitly to the usual mix of interests and institutions, suggesting a new way of thinking about the difference between Chinese and Indian reforms.

My reading of the role of ideas (not necessarily completely in line with Kapur's) is that China saw a much sharper shift in the conception of what forces drive material progress. China's experience with central control of all facets of society and economy, the sharp discontinuities it had already undergone, and the ability of the Communist Party to reach down to the local level, meant that the country's ideational shift was comprehensive and far-reaching. In India, on the other hand, economic reform has not been accompanied by a similar sea change in perceptions. Liberalisation has been seen by many in the bureaucracy or political leadership as a necessary evil, to be implemented grudgingly on an as-needed basis, rather than as a fundamentally new approach to organising the economy. It is important to realise that this is not a difference between elite and masses—it is large segments of the elite that have failed to change their attitudes, despite the failures of the old Indian model of supposedly state-led development. The result is a false equation of concern for distributive justice with a preservation of the ancien régime, or with restoration of some non-existent golden age of governance.

Perhaps it has been inevitable that ideas have been slow to change in India—it has had no Cultural Revolution, no proletarian or peasant revolution, no fundamental shaking up of social relations. This may be the critical difference between the two giants, but through its implications for ideational change or stability rather than through resulting differences in institutions and interest groups. India may need to see a more thorough shift in ideas about governance and markets if economic reform is to succeed in the long run. Kapur points out that new ideas are entering Indian discourse and policymaking, through the Indian

Diaspora, and through a rise in entrepreneurship. These attitudinal changes may need to diffuse throughout society if India is to match China in its long run growth.

Certainly, India has the advantages that arise from openness and diversity, if these are allowed to flourish through the inflow as well as domestic blossoming of ideas. On the other hand, China has raced ahead of India in higher education. Its leadership seems to be working aggressively on problems of environmental damage, governance, regional inequality, and other consequences of its headlong rush for growth, without undercutting the strengths of the market. If this view is correct, any perceptions of Chinese fragility may be too pessimistic. India's rulers may need to learn from how China tackles some of its current problems. But the biggest lesson from China may be the power of ideas: India still needs to fight a battle on that front.

5. Money and Finance

Taking stock of inflation management

Thursday , April 05, 2007

With inflation a headline story in India, and the Reserve Bank (RBI) continuing its inflation control efforts—most recently by hiking its lending rate and banks' cash reserve ratio—now is a good time to take stock of the monetary policy situation. RBI Governor YV Reddy has done just that in a speech at the Bank of Greece on April 2. The speech provides a wonderful overview of monetary policy in India, including its history and recent approach. The statement of objectives in the speech is straightforward: to maintain price stability and accelerate growth. In this context, it is worth noting that there is little or no support in India for pure 'inflation targeting', which would make price stability the RBI's sole objective. The arguments against this approach can be theoretical, empirical or political, and all have been made. However, accepting the dual objective leaves open the thorny question of what the trade-off between the two goals should be.

Stanford University economist John Taylor examined the behaviour of the US Federal Reserve, which does not engage in pure inflation targeting either, and worked out an empirical regularity relating the Fed's target interest rate to the desired real interest rate, adjusted by weighted deviations of the actual inflation rate from a target, and actual output growth from potential growth (I am simplifying a bit here). The basic idea is that if prices are rising too fast, or the economy is going beyond its speed limit, then higher interest rates are the predicted monetary policy response. This regularity became famous as a normative 'Taylor rule' to guide monetary policy, sparking a cottage industry among academics. In India, there seems to have been less attention paid to quantifying the processes governing inflation and growth, and the actual or desired monetary policy responses.

The lack of good empirical knowledge makes it difficult to judge the current RBI monetary policy stance. We know that money supply has been growing rapidly, but what is appropriate is difficult to judge in an economy in which the financial sector is undergoing potentially dramatic structural changes. As Governor Reddy discusses lucidly in his speech, the RBI, which had used monetary targeting from the 1980s, switched in 1998-99 to an alternative 'multiple indicator approach.' Before I discuss this current method, let me continue with the issue of assessing the RBI's monetary stance. If we cannot use money supply growth, can we at least use something like a Taylor rule? We know that current inflation is perhaps 2 percentage points above the target (which is really a band, but I'm using a single number to simplify). There is no official estimate of potential output, but recent exercises suggest that India's potential medium term growth rate is 8%. Using a current growth rate of 9%, growth is 1 percentage point above potential. (Here I am ignoring the possibility that India is just catching up with its real potential output.) Taylor's original formula put weights of 1.5 and 0.5 on inflation and output deviations respectively. If I use these weights, the target interest rate should be 3.5 percentage points above the long run equilibrium rate. If that is a nominal 6% (2% real rate and 4% inflation), then one might conclude that the RBI has not tightened enough. But there are all kinds of qualifications. If the weights are both changed to 1, the interest rate premium goes down to 3%. Other weights are possible, depending on what the welfare function of policy

makers is (or of whom they represent). Some have also argued that the current inflation numbers are misleadingly high. And, as I have implied, the potential output calculation is an educated guess at best.

So, it is difficult to conclude that the RBI will, or should, tighten more. On the 'should' aspect, let me say that my estimate, looking over the past year's events, is that they should at least have tightened a bit sooner. This is because monetary policy works with a lag of as much as a year (or even more). Perhaps the failure (in my view) to act more quickly reflects political concerns, in which case the remedy is structural—greater independence of the RBI. This is a common prescription for central banks around the world. However, the problem may have been caused by a lack of clear signals, or leading indicators. If that is the case, the prescription is really for more detailed analysis by the RBI itself: Governor Reddy notes their efforts in this regard, but greater urgency is clearly required. The danger is that being slow with monetary policy adjustments in the opposite direction (loosening once inflation and overheating are under control) could stifle growth unnecessarily.

Returning to the RBI's multiple indicator approach, Governor Reddy's speech lays out both the plethora of indicators used, and the many policy instruments that are brought to bear in bringing inflation under check. Unfortunately, the current approach smacks too much of 'command and control' and lacks simplicity and transparency. It may work for now, but it is unlikely to support the larger strategic goal of developing a modern, world-class financial sector in India. While Governor Reddy's speech lays out the RBI's modernising and institution-strengthening actions along many dimensions throughout the financial sector, it may be as important for the RBI to revisit its monetary policy approach, reforming it to achieve greater simplicity and transparency.

Towards a better monetary policy framework

Friday , May 04, 2007

My column last month on inflation and monetary policy provoked more response than usual, no doubt because of the heatedness of the debate, rather than any one thing I wrote. With some of the heat having subsided, this is a good time to revisit some of the issues. This is important since the long run goal of efficient monetary management remains, in my view, unrealised.

One indicator of sub-optimality is the range of opinions that were expressed over the past few weeks, on the conduct of Indian monetary policy. Some divergence of views can be expected based on different interests, but there was even disagreement on the basic facts of how much monetary tightening had occurred, let alone what was optimal. One conclusion I would draw from the past few weeks is the need for greater transparency and predictability of monetary policy. Predictability includes timing, but also can have implications for the range of instruments that the RBI uses. A more parsimonious use of instruments could promote simplicity, and hence the predictability of what any policy moves would accomplish.

Last month, I raised the idea of using the Taylor rule framework to assess the RBI's monetary policy stance. One former policy advisor suggested to me that I was using the term 'inflation targeting' too narrowly, and that a high enough inflation coefficient in the Taylor rule would constitute inflation targeting. The issue remains as to whether the RBI's record fits the bill. I was pointed to the work of Vineet Virmani, of IIM-Ahmedabad, who estimates monetary policy rules for India for the period 1992-2001. A striking feature of Virmani's results is that the estimated rule is extremely sensitive to the inflation measure used. Using the headline measure of inflation, the WPI suggests that the RBI's 'rule' (as implied by the data) has been destabilising, while an alternative (technically, a 'trimmed mean') indicates a rule with much better inflation-fighting properties (inflation-term coefficients of 1.6 to 2, versus 1.5 in Taylor's original rule). Clearly, there is work to be done here in deciding what to measure and target. Virmani also allows for gradual adjustment of the interest rate, and suggests that the RBI's behaviour fits a different 'McCallum rule,' in which nominal income is targeted.

One aspect of the RBI's conduct of monetary policy is its continued use of the cash reserve ratio (CRR). In the 1990s, when the external and internal challenges were greater, the CRR was used regularly. In January 2002, RBI Governor YV Reddy stated plainly that, "The medium-term objective is to bring down the CRR to its statutory minimum level of 3.0% within a short period of time." Clearly that has not happened so far, and raising the CRR has been an important tool for the RBI in the last year. The RBI also continues to use provisioning requirements for standard advances in specific sectors, such as real estate. These instruments show up indirectly in empirical estimates of policy rules. For example, Virmani finds evidence that monetary aggregates are still implicitly targeted, in his estimated rule. It was these kinds of direct interventions that I implicitly characterised last month as 'command and control.' Perhaps that language was too strong, as a senior policymaker suggested to me. However, such instruments make the guiding principles and impacts of monetary policy less clear. It would be better, in my view, to move away from such instruments (which can seem too reactive) toward more forward-looking interest rate management.

A final issue that has been well discussed in the media is the RBI's exchange rate management. An exchange rate target clearly shows up in Virmani's estimates of the RBI's implicit policy rule. We know from theory that fixing the exchange rate with free capital flows cedes control of domestic monetary policy. The RBI is grappling heroically with the so-called 'impossible trinity.' The rupee has been allowed to appreciate against the dollar, and some additional capital outflows allowed. It remains to be seen how this will play out. Economic orthodoxy would suggest that India is now on the right path, with gradual capital account liberalisation, a freer exchange rate, and potentially better control of domestic monetary conditions. There is a minority opinion, however, which views with favour the Chinese model of pegging the currency to support exports, maintaining capital controls, and allowing foreign exchange reserves to pile up. Some of the difference in these perspectives depends on expectations of how quickly and strongly the Indian financial sector will develop.

In either case, there seems to be room for the RBI to move toward a monetary policy framework that uses fewer instruments, strives to be more forward-looking, and commits to simple, transparent policy rules. One can infer some of this direction from recent policy pronouncements, but perhaps not enough. It also may be the case that a new contractual relationship between the government and the RBI is necessary (implementing inflation-targeting contracts, sometimes called 'Walsh contracts,' after my colleague Carl Walsh, who pioneered the concept). But progress in policy making can be made even without that institutional innovation. It is easy to second-guess every small policy move made by the RBI. I am not doing anything like that here, or in my previous column. The goal I am pushing for is a move towards a superior policy rule or framework.

Finance and India's development

Thursday , July 05, 2007

The Congress-led UPA government, despite being shackled by coalition partners and internal disagreements, has sponsored two important reports on financial sector reform in India. The first, the Tarapore report, provided a somewhat mixed and timid endorsement of a move towards capital account convertibility (CAC). The second, the Mistry report, gave an exceptionally lucid analysis of what needs to be done to make Mumbai into an international financial centre (IFC) on par with, say, Dubai or Singapore. The recommendations of the Mistry Committee amount to a prescription for comprehensive reform of the financial sector. Indeed, there are recommendations that concern the institutions and conduct of monetary policy, tax policy, and management of public finances. The report includes a wonderfully detailed table with 48 different recommended actions, and a timeline for each one of them. Unfortunately, this timetable will be ignored, recommendations will be adopted piecemeal, if at all, and often the necessary analysis will not be done before proceeding. We can take all that for granted, as typical of policymaking in India. How to change that process for the better is a separate problem.

Instead, I want to frame the issues in a broader context, that of 'rapid inclusive growth', the UPA's mantra. In an earlier column (October 2006), I reviewed some of the academic evidence for the importance of

foreign capital in developing country growth. Academic studies are not sanguine about a positive link between the two, with FDI being a partial exception. This might suggest that CAC is not worth the risks it brings, of increased vulnerability to financial crises. On another front, Martin Wolf, the chief economic commentator at The Financial Times, has dismissed the goal of creating an IFC as being on par with the old dream of every developing nation to have its own flagship airline. Mumbai as an IFC, in this view, would only create an enclave within the economy, benefiting the already well-off.

To assess the competing views, one has to remind oneself of the role of finance in development, which is simply to facilitate the allocation of capital to its most productive uses. One can see why foreign capital might not be particularly productive if it is misappropriated or wasted by a domestic economy that lacks key institutions or complementary inputs. One can also see why an IFC might thrive without benefiting its hinterland if it simply improves the allocation of capital elsewhere in the world. In some ways, therefore, CAC and building an IFC are both carts that must be pulled by the horse of domestic financial development. Sometimes, the argument is made that pursuing these goals will create pressure for improvements in domestic financial institutions, and there is something to that view. Indeed, the development of India's IT services industry was often decried in the 1990s as creating an enclave of the privileged in the economy. Yet, it has turned out to be very different, with substantial positive spillovers to the rest of the economy.

However, if the two goals of CAC and creation of an IFC are to be politically more palatable, it would be wise to draw out the implications for the domestic economy more explicitly. Of course, many of the recommendations of the Mistry Committee are completely generic in this regard—for example, those with respect to monetary and fiscal policy, and improving urban infrastructure. Others would benefit the domestic financial sector as a whole, such as those on taxation of the sector, or artificial segmentation that restricts competition. Perhaps the thorniest issues pertain to regulation of the sector. The Mistry Committee opts for principles-based regulation, which is particularly light-handed, along the lines of the current British approach. Yet, this may be asking for too much. Regulation in India still needs to move from discretionary, case-by-case decision-making to one with transparent, durable rules. Proper, effective rules-based regulation may be the immediate step that is needed. Many of the needed changes are detailed in the Mistry report, and it is these myriad relaxations and changes (far more than 48 broad recommendations) that need to be highlighted, sequenced and implemented.

The goal should be a regulatory regime that avoids arbitrary and temporary controls and bans, such as were needlessly added to the pure monetary policy instruments in recent attempts to control inflation. The goals of financial sector regulation should be universal, reaching all the way down to smaller firms, state and municipal governments, and even panchayats, and include better and more transparent accounting (the state governments are egregious offenders here), stronger disclosure requirements, reducing transaction costs, and greater competition on a level playing field. Of course, neither the Tarapore nor the Mistry committee was asked to pronounce on overall financial sector reform. And the points above have been made in previous committee reports on that topic. Yet, the Mistry report provides an occasion for revisiting these basic issues. Among all the other economic reforms, financial sector reform has certainly been important in driving and sustaining India's rapid economic growth. Evidence from developing countries in general bears out the benefits of domestic financial sector development.

Indeed, there may be a case for multiple financial hubs to serve the domestic economy better. That goal would complement the creation of an IFC, support integrated financial sector reform, and gain political traction for implementation of reforms.

To market, to market

August 02, 2007

In December 1996, US Federal Reserve Chairman Alan Greenspan raised the concern that stock prices had been unduly lifted by "irrational exuberance". The US government acted swiftly, banning stock market trading until speculation had been eliminated.

Of course, that response never happened. Nor did the US regulators ban programme trading and stock index futures after the Black Monday crash of October 1987, nor hedge funds after the collapse of Long Term Capital Management in 1998. The presumption behind regulatory responses in such cases is the correct one—namely, that markets generally improve information flows, and allow more efficient decision-making, including better risk management. When markets or market participants behave badly, specific problems are identified and addressed, whether they pertain to individual market participants, the mechanisms of trading and general rules of the game, or the manner of regulatory oversight.

In India, we often have a hard time even getting started. The official excuse for not permitting many kinds of markets is that they will behave badly, and permit exploitation and manipulation. This attitude, of course, is completely as odds with the stated policy aims of developing the Indian financial sector into a world-class competitor. In many cases, there is enough international and domestic experience with market design to proceed quickly with setting up and running the requisite markets.

Rupee currency futures are a good example of tardiness on the part of policymakers. The RBI responded to the June 2007 start of trading of rupee futures on the Dubai Gold and Commodities Exchange by setting up a committee on the matter. There is really nothing much to mull over in terms of market design, since the technology and institutional rules are off-the-shelf products. There are two possible objections to consider, however. The first comes from current dealers, who might see their profits from a non-transparent market with entry barriers squeezed by an open exchange. This concern is often disguised as one about volatility or market stability. In fact, competition from places such as Dubai is going to affect these incumbents anyway, and market-making rewards are going to migrate overseas. The second concern has to do with currency management. The RBI has followed a policy of managing the level and volatility of the exchange rate, especially with respect to the US dollar. Would currency futures make the RBI's job harder?

The real answer is probably that the RBI needs to adjust its objectives, allowing greater flexibility in the exchange rate, while reserving the option of intervening to maintain some degree of market order and predictability. At various times, regulators do place minimal limits on markets—the US SEC introduced circuit breakers after Black Monday to avoid trading mechanisms from being overwhelmed in extreme circumstances. This does not mean that the RBI is the appropriate regulator for currency futures. Indeed, it has no expertise in running an exchange, and as a market participant, it should definitely not be the regulator. It is obvious that Sebi should regulate currency futures trading, and that existing exchanges can add on these new products.

It is easy to confirm these intuitions by examining what's happening on the DGCX. One can get real time data on current trades, and historical data on prices and volumes. After an initial rush, volume has settled down at about $3-4 million per day. Given the RBI's position as market leader, futures prices have tracked the spot rupee-dollar exchange rate quite closely, and also given insight into expectations, or risk management needs of participants. For example, for the period June 11 to July 15, the closing price of July 16 futures was above the spot rate on 20 of 25 trading days. The maximum deviation was about 0.4%. The corresponding figures for August 20 futures were 19 days and 0.57%. August 20 futures were above July 16 futures for the first seven days of this period, and then below for 15 of the next 18 days. One can do more substantive analysis of the numbers, but the lessons are clear: the market is orderly, it provides information to all, and it allows participants to manage their risks as they see fit. But the rewards are accruing to Dubai, and not to anyone in India.

Setting up and running new financial markets is no longer a difficult proposition, if trading institutions and experienced regulators are already in place. There is no need for India's policymakers to delay in this respect. In fact, some research by Bharat Ramaswami and Jatinder Bir Singh on the soya oil exchange suggests that commodity futures markets can function well even in the absence of integrated, frictionless spot markets. With respect to currency and debt markets, including derivative products, the RBI should quickly hand over the charge to Sebi, which should work with exchanges to introduce as many markets as possible in a sequenced, orderly fashion. The RBI's proper role is macroeconomic management, not microeconomic details of running markets. This does not mean lack of monitoring or failure to manage crises. The key point is that macroeconomic management is unlikely to be compromised by enriching the set of financial markets in India. The latter, in turn, is crucial if India is serious about financial sector development.

Macroeconomic tightrope act

August 16, 2007

Growing up in Delhi, like many of my middle-class contemporaries, I went to a Catholic school. There, we had classes in "Moral Science", which I later realised was based on the Catholic catechism. I only recall that it began with "Who made all things? God made all things." I did not care for the subsequent parts about all the types of sin and punishment, but the simplicity and certainty of the formula was appealing. If only we could have the same for macroeconomic policy in developing economies. It might go something like this, for India.

Can India have an open capital account, a fixed exchange rate, and control of domestic inflation?

No, it cannot. Nor can any economy.

How does China do it?

China relies on domestic financial repression, artificially controlled interest rates and quantitative controls, something India has moved away from. As a result, India's banking sector is probably much stronger than China's.

Then what should India choose?

If inflation control is a political imperative, India would have to choose between capital controls and exchange rate flexibility.

Why not a bit of both?

In practice, that is what many economies do. Certainly, managing short-term volatility and possible speculative bubbles are important. But ideally, controls must be simple, transparent and not destructive of investor confidence. The hardest part is sticking to any fixed band for the exchange rate, if the market has other ideas. It can be like walking a tightrope.

Since there is no strong evidence that foreign capital enhances growth in developing countries, why bother with it?

Foreign direct investment (FDI) is the exception to that negative picture, and seems to have positive growth effects. Perhaps this is because FDI is accompanied by inflows of technical and managerial knowhow, and is less likely to be wasted, stolen or otherwise directed to unproductive uses.

But can't FDI go into areas such as real estate speculation?

That is a general macroeconomic issue, and not specific to foreign capital. Foreign capital can amplify speculative asset bubbles. Controlling such bubbles is probably best done through managing overall credit conditions with monetary policy, backed by sound financial regulation. (Note: even advanced economies can mess up—the US housing bubble was exacerbated by poor regulation of mortgage lending practices.)

So, aren't you saying that domestic financial institutions matter the most?

Yes, that is exactly what the evidence suggests. The tough question is whether openness to foreign capital inhibits, supports or is neutral with respect to the development of domestic financial institutions. Even in the first case, forward-looking policy can rectify the negative impact. The growth benefit of developing the domestic financial sector is another reason India should not go back to financial repression.

Going back to the exchange rate, hasn't the rupee's appreciation hurt exporters?

Yes, it has, especially those who export to the US—remember, though, that the dollar has been depreciating against most major currencies. Part of exporters' problem was the suddenness of the fall.

But if the rupee stays high, will this not hurt growth—after all, wasn't the East Asian miracle helped by undervalued exchange rates?

Recently, Dani Rodrik, at Harvard, has marshaled empirical evidence for this view, and tried to explain the growth benefits of an undervalued real (that is, the market rate adjusted for differences in purchasing power) exchange rate. The explanation relies on the idea that market or institutional failures may affect sectors producing tradable goods mo re severely, so that the tradable goods sectors are too small to maximise growth. An undervalued real exchange rate may correct the problem. But, as Rodrik recognises, the exchange rate is a blunt instrument, and manipulating it is an inferior policy to fixing distortions directly. Furthermore, India's situation, and the global environment, may not be comparable to what characterised East Asia decades ago.

What about China's current success?

China uses capital inefficiently, and has a different political system within which to pursue its growth strategy.

But don't political constraints in India leave the 'undervalued exchange rate' approach as the best feasible option?

If they do, India's policymakers need to acknowledge this explicitly. Is the RBI able to say that it is being forced to follow suboptimal monetary and exchange rate policies because the Centre cannot fix the economy's real problems? Not likely. The RBI should not be forced to walk a tightrope with the politicians' burden of generating sustained growth in output and employment.

So what should the government do?

Let the RBI serve its proper role—managing price levels and the banking system's health. Encourage the RBI to let go of some of its unnecessary controls, and work with it to continue reforming the financial sector, trying to bring down transaction costs so that credit starts reaching the rural economy more deeply. Take its own policy actions to stimulate private sector job creation.

Are there any dangers?

The political dangers of acting are probably overrated. The danger of not acting sensibly is that the RBI, and the economy, could fall off the tightrope. That would not be as bad as eternal damnation, but painful nevertheless.

Inflation-growth track record

August 30, 2007

With the Reserve Bank of India (RBI) recently receiving criticism from all sides for its management of inflation and exchange rates, it is interesting to examine India's recent inflation-growth track record, and understand the causes behind its good performance.

India always seems to suffer in comparison to China, though it may well do relatively better in the longer run—witness China's mounting problems with quality control in manufacturing, environmental degradation, and now even inflation. But put aside that popular pairing, and instead look at India relative to a few other large developing countries.

The table shows annual percentage rates for real growth and inflation. In the last seven years, India's growth and inflation record is considerably better than any of these countries. If one includes the tough years around the Asian financial crisis, then the last dozen years make India's relative performance look even better. One possible lesson from this comparison is that India has followed better policies during this period. Faster growth might be ascribed to catching up, or ongoing policy reforms, or even the late unleashing of entrepreneurial energies.

But the inflation record has nothing to do with these factors. If we accept that inflation is a monetary phenomenon, then the credit for good performance on this front must go to India's chief money manager, the RBI. The ostensible puzzle here is that the RBI has not seemed to follow a monetary policy route that might fit with academic orthodoxy.

It is not particularly clear or transparent in its functioning, it employs quite a few quantitative and discretionary (perhaps bordering on ad hoc) policy levers, and it simultaneously tries to manage large external capital flows and the level of the exchange rate, along with domestic credit conditions. Yet, the Indian economy's inflation performance is quite good, benchmarked against other large developing countries.

On this evidence, one could also credit the RBI with contributing to a strong growth performance, since it has avoided the double-digit inflation rates that have at times plagued the other countries in the table—and empirical evidence across many countries and over time suggests that double-digit inflation hurts growth. A related puzzle pertains specifically to capital account openness.

Cross-country evidence, recently marshaled in research by Abhijit Sen Gupta of Icrier, suggests a negative relationship between inflation and capital account openness, the latter being measured by the now-popular index constructed by Menzie Chinn and Hiro Ito. This correlation is particularly strong when inflation rates are high and domestic institutions are weak. According to the Chinn-Ito index, Brazil, Indonesia, Mexico and Russia (BIMR) all have greater capital account openness than India. Thus, the data in the table, based on this BIMR-India comparison, are in direct contradiction to the simple negative relationship observed by Sen Gupta.

One easy explanation (really a non-explanation) is to say that India is different. However, the real difference between India and the comparison countries may be in the quality of its institutions. All the other four nations in the table have weaker democratic institutions and feature prominent examples of governments effectively transferring resources to elites through various macroeconomic and regulatory policies. In this subset of the world's nations, therefore, India's RBI, and even its finance ministry, looks quite good.

Interestingly, Sen Gupta incorporates political economy conditions into a theoretical model, and suggests that capital account openness may work to check inflation by acting as a disciplining device on politicians. The evidence from the data in the table suggests that this may not be a strong justification for capital account openness.

Sen Gupta also looks at India's record over time, and argues for the same possibility of a disciplining effect, based on a negative relationship between inflation and capital account openness for the period 1990-2006.

Since this latter evidence is for a single country, it mostly controls for variation in institutional quality. However, this observed relationship does not identify any causality—both variables might be affected by a third factor, or low inflation might be encouraging foreign investment. One is really left with some puzzles as to what has made India so successful in its macroeconomic management. In an earlier column (May 2005), I had cited work that suggested that, when properly measured, the RBI was following some version of a (modified) Taylor rule, and so it was effectively fighting inflation in an academically "approved" way, without explicitly kowtowing to any simple formula.

Clearly, the answer to the puzzle lies somewhere in the detailed political economy of India's institutions: we know that this creates strong inflation averseness. Understanding this political economy better, as well as the mechanisms that are determining both macroeconomic policy decisions and macroeconomic outcomes, will be helpful in recommending changes in the way that the RBI operates.

Despite India's macroeconomic success in the last decade, it is entering rougher and uncharted seas, and sailing ahead may require a different approach than in the past, so changes will have to come.

How financially open is India?

Thursday , September 13, 2007

In my August 30 column, I examined India's inflation growth record, and compared it to four other large developing countries: Brazil, Indonesia, Mexico and Russia (BIMR). India has recently done better than all of them. Its good performance on the inflation front goes with an apparent lack of capital account openness. This would make India an exception to the general pattern of a negative correlation between inflation rates and openness, the explanation being that its governance institutions perform better than those of the BIMR quartet.

But there is another wrinkle to this tale. The comparison of capital account openness used the popular Chinn-Ito index, which combines various measures of legal restrictions on cross-border capital movements, using a purely statistical technique to determine how to achieve the "best" combination. By this index, India has the lowest score (least capital openness), which is -1.1. A score of 2.6 is the best possible, achieved by several developed countries. The BIMR quartet's scores are, respectively, 0.2, 1.2, 1.2, and -0.1. The comprehensiveness of the exercise undertaken by Chinn and Ito, and their use of the index in various analyses of the links between financial development and growth, have together contributed to its popularity. However, it tells only part of the story. Ultimately, de facto financial openness and financial integration are best indicated by relationships in asset prices. The idea is as follows.

The condition known as covered interest parity (CIP) states that, in the absence of market imperfections or transaction costs, the interest differential between financial assets of the same term denominated in different currencies will equal the cost of covering in the forward market the currency risk from arbitrage between the two assets (arising from possible movements of the exchange rate before the assets mature). If there are frictions, then there will be a no-arbitrage band (defined by two inequalities), rather than a single equality condition. This observation essentially goes all the way back to John Maynard Keynes, writing in the 1920s, but recently, better data and new empirical techniques have allowed the idea to be applied systematically. In the current context, capital controls contribute to market frictions, and so the nature of

the arbitrage thresholds gives insight into de facto openness, consequent on legal restrictions as well as market imperfections.

A brand new paper by Gurnain Kaur Pasricha, at UC Santa Cruz, applies the CIP-threshold analysis to nine developed and nine emerging market economies, for post-1995 data. Aside from the novelty of her data, studying several emerging markets, she constructs a new index of financial openness or integration, which I shall call the Pasricha index. The Pasricha index uses several components in addition to the threshold bandwidth, measuring various characteristics of the sample data outside the thresholds (how often, how much, and how continuous). The index simply averages these components, a more intuitive approach than that used in Chinn-Ito. The numerical values are specific to the sample of countries used, so the Pasricha index is purely ordinal. However, comparisons with the Chinn-Ito index can be performed for any given set of countries and data. For Pasricha's sample, her index aligns well with that of Chinn-Ito: with a correlation of 0.73. However, India emerges as the biggest outlier.

For Pasricha's data, the Chinn-Ito index ranges from 2.62 (shared by five developed countries) to -1.09 (South Africa). India measures up at -0.95, second last in financial openness. However, according to the Pasricha index, India ranks 11th out of 18 nations, with a value of 0.01, where the range is from 1.02 (the UK) to -1.31 (Malaysia). Of the BIMR quarter, only Mexico is in Pasricha's data set. Its Chinn-Ito index is 0.72 (again much higher than India), but its Pasricha index is only -0.03.

The upshot of all these numbers is that India's de facto financial integration is way ahead of its rules and regulations. India's record of good inflation outcomes, in this view, is perfectly consistent with the typical negative relationship between financial openness and inflation rates. This does not negate the importance of institutions. For example, it could be that the capital controls that are on the books are being enforced by sophisticated regulators in a manner that reduces actual frictions. It could also be the case, however, that sophisticated financial institutions and private sector participants are thwarting regulators' intent. Finally, there may be tacit collusion among regulators and financiers in the presence of political obstacles to overt capital account liberalisation. Analysts and policy makers alike can do their jobs better by understanding the specifics of the situation encapsulated in the two indices for India. For example, these specifics may lead policy makers to simplify controls, or change how they view the efficacy or benefits of the rules currently in place.

Whatever the details of its institutional underpinnings, India's de facto financial integration is quantitatively established by the Pasricha index, which promises to be an important complement to the Chinn-Ito index in assessing capital account openness. Perhaps the most interesting extension of the analysis for emerging markets would be to the other three members of the BIMR quartet, and to countries such as China and Turkey, which also have low Chinn-Ito indexes. A final gloss on the issue of financial integration concerns financial crises. The Pasricha analysis and index calculations exclude crisis periods, but can be extended to such situations, to examine how market frictions, as measured by the index, change during periods of turbulence.

6. Management

Lessons from a global innovation hub

Thursday , January 04, 2007

Business schools in the US are one example of that country's global leadership in higher education. In the last few decades, the MBA degree has become a signal of having a particular skill set that corporations seem to covet. Many Indians have followed the route of pursuing graduate management education in the US, often following a first degree in engineering. These individuals have started to occupy key leadership

positions in US corporations, in business schools, and in entrepreneurial ventures in places such as Silicon Valley.

The success of US management education has not precluded criticism. Some argue that US business schools are too focused on research, and have lost their connection to "real world" issues. Others see them as dysfunctionally focused on media rankings and superficial marketing fixes. Prospective students and sponsoring employers are beginning to balk at the increasing cost of acquiring the coveted MBA credential. Meanwhile, global competition has intensified, as imitators have sprung up in Europe and Asia, often with their own innovations, including more global perspectives, and better industry linkages. As one might expect from places that teach management, business schools are constantly seeking to cater to the demands of the marketplace, adjusting curricula and delivery methods. Part-time degrees, executive programs, distance learning, educational joint ventures, and interdisciplinary approaches are among the newer developments.

Recently, Kyle Eischen and I undertook a study of the trends in management education, eliciting the views of business school faculty and administrators, and particularly those of Silicon Valley executives. We wanted to understand the global trends that will shape the demands on corporate managers over the coming years, and how well business schools are perceived to be responding to these evolving needs. Silicon Valley is an important test case, as a global innovation hub that regularly spawns new ideas and new businesses. It is also distinguished by its venture capital industry, and the presence of talent from all over the world, especially India and East Asia. It is home to two world-class business programs, at Stanford and Berkeley. At the same time, the Valley has explicitly relied on technological rather than management innovation, and technologists sometimes have an uneasy relationship with the finance, accounting and marketing graduates of business schools. The disconnect is exacerbated by the fact that much of the business school talent in Silicon Valley continues to be imported from elsewhere.

What did our study reveal? Silicon Valley executives recognise and respect the ability of business schools to turn out graduates with strong analytical and functional training. However, these skills are almost taken for granted — in a way, a measure of the success of the MBA model. What executives were looking for was something more: they saw abilities to manage across cultures, communicate effectively, lead and motivate, integrate techniques across functional areas or disciplines, negotiate, and deal with emerging markets, as areas which are very important, but not ideally handled by business school curricula. This perspective reflects the globalisation of business in general, and of Silicon Valley in particular, but the challenges are seen to go beyond narrow approaches to managing global information systems or supply chains. Another aspect of management emphasized by Silicon Valley executives had to do, unsurprisingly, with technology. However, the lessons were subtler than just reinforcing the importance of technology, innovation, or intellectual property rights. The issue that concerns executives is how to manage all aspects of knowledge and the innovation process to develop and commercialize products in a world where technologically complex products have to work within complex systems. The globalisation and fragmentation of value chains only compounds this complexity.

The message from executives was remarkably clear and consistent. It remains to be seen how quickly and how well US business schools, whether incumbents or new entrants, will respond to evolving business needs. They are certainly trying. UCLA offers a program that includes time in Shanghai and Bangalore. Yale plans to require a semester abroad for all its MBA graduates. Wharton is building global alliances and establishing outposts in the Pacific Rim. UC San Diego has established a new business school that aims to integrate closely with local technology firms in telecom and biotechnology.

In this ferment, there is a huge opportunity for India's management schools. The global need for management will only grow, as knowledge becomes an ever-more important component of economic activity. And as manufacturing continues its shift to Asia from the US and Europe, training managers so that they have some experience in Asia will become more important. European business schools successfully responded to US innovations in management education, with their own offerings that were more industry-linked, focused and global. India's business schools have the advantage of the country's newfound reputation, a strong alumni base, and facility with English. What they need are resources,

stronger industry linkages, and a supportive policy environment. India's government should be proactive in allowing foreign collaboration, encouraging industry participation and helping Indian management education to be at the cutting edge of the latest transition. Finally, lest one dismiss this as an elitist recommendation, compounding India's past policy tilt toward higher education, note that a large percentage of managers we surveyed viewed ethics and social entrepreneurship as important areas for management education. Silicon Valley's ethos has always included making the world a better place. Google's informal motto is 'Don't be evil.' Many of Silicon Valley's newest entrepreneurs would say, more positively, 'Do well while doing good.' Strengthening their existing Indian links through India's business schools will do India some good.

Management in the 21st century

January 3, 2008

Academic writing for newspapers are free of the compulsions of work-a-day journalists, and can take a longer view of matters, in keeping with the standing of universities (for example, Al-Azhar, Bologna and Oxford) as among the oldest continuously functioning institutions in the world. At the beginning of the year, when there are many prognostications of what 2008 holds in store, I'd like to take an even longer period for my predictions. This means looking at broad trends rather than specific events—though understanding these trends can sometimes guide the particular.

With my own university planning a new management school for Silicon Valley, I have been giving some thought to the nature of management, and how it is changing, along with changes in the nature of the firm itself. The issue has great importance for India's development, because it is human ingenuity in creating and managing organisations that harnesses for material gain the fruits of our parallel ingenuity in understanding and mastering the natural world. India's managers, at home and in key positions in the US and elsewhere, have proved themselves to be world class whenever given a chance.

Even hunter-gatherers and early farmers had to manage resources, tools and teams, but modern challenges of management begin with the Industrial Revolution. The factory system and the assembly line required close coordination of workers and machines in those factories, to manufacture ever more complex goods in ever increasing variety. In some ways, this process continued through almost two centuries, culminating in the great corporations that dominated the industrial economies of the world, making steel, automobiles and engineering goods. As graduate management education became professionalised after the Second World War, managers were trained to work within these large corporate hierarchies, with the ethos of the factory system and assembly line pervading the head office as well.

If the first phase of professional management was associated most with labour and materials, the second saw finance come to the fore. Basic financial innovations such as limited liability shares are much older, but the 1980s saw an explosion of financial markets and instruments. Finance became a preeminent management topic, and its importance was illustrated by the entry of industrial and retail firms into areas of finance such as consumer credit and mortgages, in addition to the further rise of already prominent financial firms. Perhaps the worst side of the fascination with finance came with old-line energy firm Enron, which went from building power plants to engaging in complicated financial shenanigans that quickly led it to ruin.

After materials, labour and capital, what is left? The final factor of production, one that will be the focus of management in the next century, is knowledge. I use this term to include data and information, and embodied (such as skills) as well as disembodied (blueprints) knowledge. Silicon Valley illustrates the importance of knowledge as the next frontier of management. The region has been the centre of crucial innovations in information technology that have made it possible to create global value networks, putting very different demands on managers than the hierarchical corporations that marked the last century. Managing in Silicon Valley is about technology, talent and teams. Factory production is still important, of course, but it has been routinised, outsourced and offshored, leaving at home the tougher issues of

managing creativity and collaboration across cultures, languages and time zones. What are some specific areas of importance for managing in a knowledge-based economy? Intellectual property management is one example. Another is information analytics, including techniques of data mining and filtering. Perhaps the most challenging area of all is that of managing collaboration among highly skilled, widely dispersed individuals—the "creative class" that ultimately drives wealth creation. In the old-style corporation, "personnel" evolved into "human resources." The new name may stick, but it will be more like "human capital" management. In many cases, the concepts and tools of finance will continue to be important, but the best managers will also need to understand the drivers of technology and talent.

At their best, Indians are adaptable as well as adept. Adaptability comes from growing up in a society with a permanent overlay of a foreign language and culture, together with an unparalleled degree of domestic diversity. Some of the most successful among those Indians in corporate management (and in academia) have combined an undergraduate technical background with graduate management education, which serves the demands of the knowledge-based economy well. While the US will continue to hold its global lead in graduate education for a long time, it will be interesting to see if India can develop the right kinds of graduate management education, and on a much larger scale than before. This is important because these managers will be in charge of the many new global firms that India must create if its economy is to keep growing rapidly for decades. Of course, innovations in higher education that prepare India's economy for the coming century require, first of all, a simple, if massive expansion of capacity. That will require a totally new regulatory and funding model, which remains to be developed.

Managing our emerging worlds

January 17, 2008

The forces of globalisation and innovation are reshaping the modern corporation, making it more geographically dispersed, more networked (relationally as well as technologically), more culturally diverse, and less hierarchical. The implication of these changes is that we are at an inflection point in the nature of management, and therefore of management education, in some ways as significant as the change heralded by the Industrial Revolution. In my last column, I suggested that one can look at the management challenge engendered by this process in terms of a greater focus on knowledge, versus the other factors of production (labour, capital and resources). Another, more specific conceptualisation of the new century's management challenges is in terms of four interrelated 'emerging worlds'.

The virtual world is in many ways the product of Silicon Valley, being the descendant of all microprocessor-based technologies, though these have been combined with storage and communication technologies that had some of their roots elsewhere. From information sharing to interaction, economic transactions, and parallel lives and universes, the virtual world has become the means to fully express peoples' desires to connect, communicate and collaborate. The embedding of digital technologies in a host of old and new products and services has created new kinds of businesses, and reshaped old businesses, internally (organisational forms) and externally (customer and supplier relationships).

The developing world is advancing at least partly thanks to the innovations of the virtual world. Distance is dissolving, and knowledge transfer accelerating. China and India, with a third of the world's population, are growing at speeds unprecedented for countries their size, and important portions of their economies have been catalysed by the fruits of digital technologies. Even the world's poorest, the 'bottom of the pyramid,' can at least be given hope by the connections and cost reductions enabled by the technologies underlying the virtual world. The promise of these developments is a more evenly balanced world in the long run, albeit with increased stresses and strains along the way. Management practice in the 21st century will have to encompass the new, multi-polar economic landscape—it will have to go well beyond the old management model shaped by the needs of GM, P&G and their cohorts.

The green world, which has been eroding since the Industrial Revolution, is facing its greatest challenge ever, arising from the emergence of the developing world, and the two giants in particular. There are two

sets of challenges for rescuing the green world, one being reduction of effluents and other wastes, and the second being the conservation of fuels of all kinds. These two goals may be complementary (more efficient engines), or they may conflict (for example, ethanol use can reduce fossil fuel extraction, but harm biodiversity), increasing the complexity of the management task. Both goals ultimately aim to reduce damage to the ecosystem, and recover or protect the "green world". Solutions require innovations in technology, public policy and social behaviour, and commercial sustainability of innovations can be an important contributor to sustainability.

The inner world, representing the drivers of human behaviour, is in some sense the last frontier of knowledge. Managing creativity and collaboration among fellow human beings is perhaps the most difficult and fundamental challenge of management practice, in capitalist firms, government organisations or voluntary associations. Intertwined innovations across many disciplines—neuroscience, behavioral economics, evolutionary biology, and psychology are providing new insights into individual and social behaviour. Interestingly, the virtual world is a tool and an arena for exploring the inner world, through bioinformatics, games and simulations, and collaborative discovery, and provides a new set of tools for management education and practice.

What are some practical implications of this view of the future of management? The 1950s and 1960s saw a systemisation of management education whereby every business school graduate is expected to have a good analytical toolkit, and basic competence in areas such as economics, finance, marketing and accounting. Interpersonal skills have always presented more of a challenge. Surveys suggest that employers value them, but business school graduates do not. Part of the problem may be that "soft" skills are hard to measure and reward.

It is also may be that management education is behind the curve with respect to teaching such skills. The case study method, which has been the staple of management education, is based on a fundamental human ability to learn through storytelling. However, learning through experience is even better. Internships are a limited way of achieving this, since students cannot be let loose too freely on running businesses. Clearly, there is enormous scope for adapting the tools of the virtual world for teaching. Online games and online worlds are going to be an important new medium for management education, but they will have to be designed specifically to enable management students to master specific challenges such as negotiation and collaboration.

One of my continual concerns is to understand the prospects for the Indian economy, and to offer pointers for its continued development, whether it is rural use of information technology, expertise in financial services, or higher education overall. Perhaps development of IT-based learning tools for management education is yet another opportunity