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Ten Things for India to Achieve its 2050 Potential

- As we have shown before, India could be 40 times bigger by 2050.
- To achieve this, India needs to implement many changes.
- India needs to improve its governance, control inflation, introduce credible fiscal policy, liberalise financial markets and increase trade with its neighbours.
- It also needs both to significantly raise its basic educational standards, and increase the quality and quantity of its universities.
- India needs to boost agricultural productivity, improve its infrastructure and environmental quality.
- Delivery of all these would ensure strong, persistent, medium to long-term growth, allowing India to reach its amazing potential.

Jim O'Neill and Tushar Poddar

June 16, 2008

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Ten Things for India to Achieve its 2050 Potential

In recent years, we have published a number of papers pointing to remarkably positive potential growth for India up to 2050[1]. Having the potential and actually achieving it are two separate things. In this paper, we outline ten crucial steps that we believe India must take in order to achieve its full potential. In our latest annual update to our Growth Environment Scores (GES), India scores below the other three BRIC nations, and is currently ranked 110 out of a set of 181 countries assigned GES scores. If India were able to undertake the necessary reforms, it could raise its growth potential by as much as 2.8% per annum, placing it in a very strong position to deliver the impressive growth we outlined in *Global Economics Paper No. 152*.

Ten key areas where reform is needed

We highlight ten key areas where reform is needed. In all likelihood, they are not the only ten, but we consider them to be the most crucial:

1. **Improve governance.** Without better governance, delivery systems and effective implementation, India will find it difficult to educate its citizens, build its infrastructure, increase agricultural productivity and ensure that the fruits of economic growth are well established.

2. **Raise educational achievement.** Among more micro factors, raising India's educational achievement is a major requirement to help achieve the nation's potential. According to our basic indicators, a vast number of India's young people receive no (or only the most basic) education. A major effort to boost basic education is needed. A number of initiatives, such as a continued expansion of Pratham and the introduction of Teach First, for example, should be pursued.

3. **Increase quality and quantity of universities.** At the other end of the spectrum, India should also have a more defined plan to raise the number and the quality of top universities.

4. **Control inflation.** Although India has not suffered particularly from dramatic inflation, it is currently experiencing a rise in inflation similar to that seen in a number of emerging economies. We think a formal adoption of Inflation Targeting would be a very sensible move to help India persuade its huge population of the (permanent) benefits of price stability.

5. **Introduce a credible fiscal policy.** We also believe that India should introduce a more credible medium-term plan for fiscal policy. Targeting low and stable inflation is not easy if fiscal policy is poorly maintained. We think it would be helpful to develop some 'rules' for spending over cycles.

6. **Liberalise financial markets.** To improve further the macro variables within the GES framework, we believe further liberalisation of Indian financial markets is necessary.

7. **Increase trade with neighbours.** In terms of international trade, India continues to be much less 'open' than many of its other large emerging nation colleagues, especially China. Given the significant number of nations with large populations on its borders, we would recommend that India target a major increase in trade with China, Pakistan and Bangladesh.

1. These include *Global Economics Paper No. 99* – 'Dreaming With BRICs: The Path to 2050' (October 1, 2003), *Global Economics Paper No. 152* – 'India's Rising Growth Potential' (January 22, 2007), *Global Economics Paper No. 153* – 'The N-11: More than an Acronym' (March 28, 2007).

8. **Increase agricultural productivity.** Agriculture, especially in these times of rising prices, should be a great opportunity for India. Better specific and defined plans for increasing productivity in agriculture are essential, and could allow India to benefit from the BRIC-related global thirst for better-quality food.

9. **Improve infrastructure.** Focus on infrastructure in India is legendary, and tales of woe abound. Improvements are taking place, as any foreign business visitor will be aware, but the need for more is paramount. Without such improvement, development will be limited.

10. **Improve Environmental Quality.** The final area where greater reforms are needed is the environment. Achieving greater energy efficiencies and boosting the cleanliness of energy and water usage would increase the likelihood of a sustainable stronger growth path for India.

Perhaps not all these 'action areas' can be addressed at the same time, but we believe that, in coming years, progress will have to be made in all of them if India is to achieve its very exciting growth potential.

A Reminder of India's Amazing Potential

Chart 1 shows the current size of the world's largest economies at the end of 2007. As can be seen, India has nestled close to Brazil and Russia, at around \$1.2 trillion in current USD. Chart 2 shows 'The World in 2050' and India's potential to be larger than the US in another 42 years.

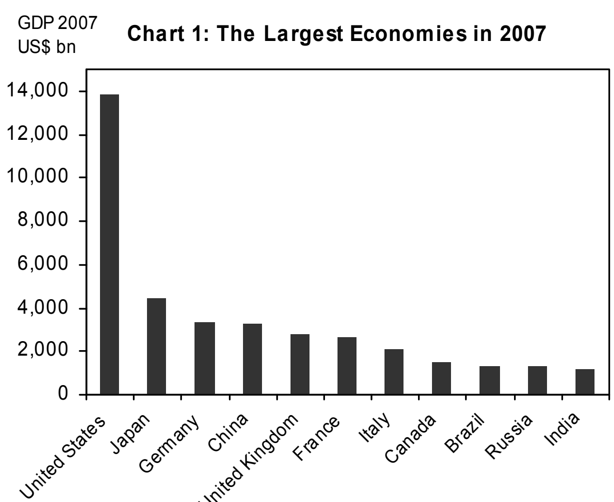
India's potential closely linked to its remarkable demographic advantage

Chart 3 on the next page depicts an even more optimistic version of the 2050 scenarios, which was published slightly earlier in *Global Economics Paper No. 152*. The key difference between the two is that the latter assumes India can grow by 8.3% on average up to 2020, compared with a more subdued 6.3% in our global BRICs research. Both scenarios paint a better growth picture for India in the future, with even the less optimistic one projecting Indian GDP per capita of more than \$20,000 by 2050.

This exciting potential is closely linked to India's remarkable demographic advantage. Turning this potential to reality is a huge challenge. Allowing the rising population to be successfully productive in the workforce is key for India—and probably for the world as a whole.

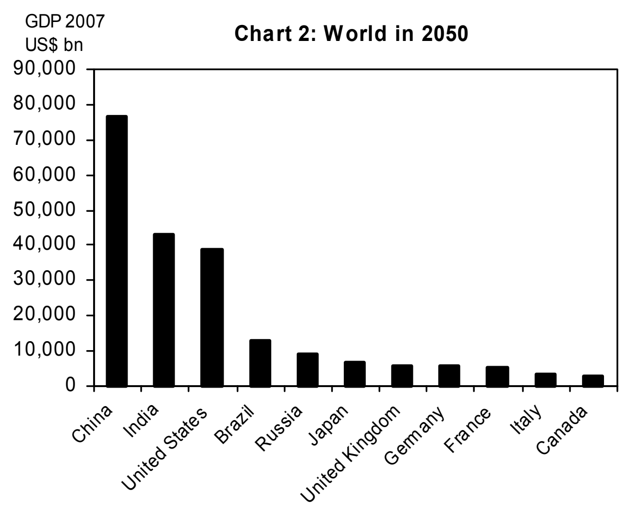
To place India's demographic potential into some perspective, the projected UN population increase from 2000 to 2020 is 310mn, about the same size as the US population today. India will in effect create the equivalent of another US, and for

Chart 1: The Largest Economies in 2007

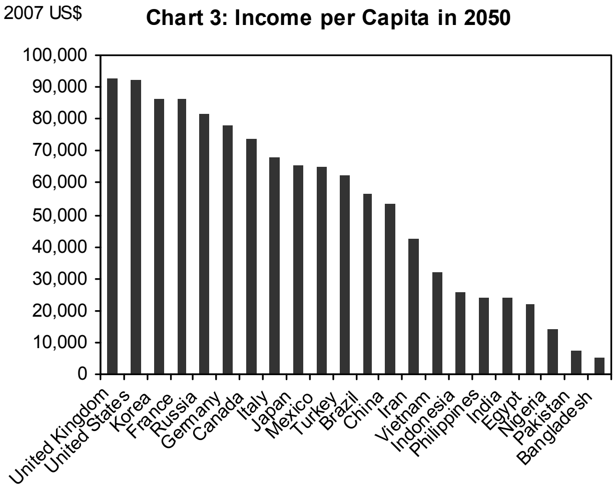


Source: GS

Chart 2: World in 2050



Source: GS calculations



Source: GS

those of working age between 2000 and 2020, India will create the equivalent of the combined working population of France, Germany, Italy and the UK. We estimate another 140mn people will migrate to Indian cities by 2020.

So What is Needed? India's Low GES Scores

India's potential is enormous. But how likely is it to realise it?

India's GES score lower than the developing-country average

As readers will hopefully know, we use our Growth Environment Score (GES) to monitor the actual progress of the growth environment for many countries. A detailed explanation of the GES and how it is calculated, as well as all the latest scores, can be found in *Global Economics No. 163*—'Building On a Decade of Progress—Our 2007 GES Scores' (December 14, 2007). In essence, we assign a score from 1 to 10 for 13 different variables that we think are crucial to productivity and growth sustainability. India's latest scores for each of the variables, and its aggregate score relative to the other BRICs and N-11 countries can be seen in Charts 4 & 5 on the next page.

India's overall score is below that of all the other BRICs and, for seven of the 13 components, India scores below the developing-country average. Of the macroeconomic variables, India scores relatively poorly with respect to its government fiscal position, and the degree of openness to trade. These are two of the ten reforms that we argue are necessary. The other five 'underperforming' variables are more 'micro' in nature, namely education, political stability and the use of PCs, telephone and the internet. Arguably, as we shall discuss in some detail below, education is one of the toughest and

Table 1: India's Demographics to 2050

Year	Population (mn)	Labour Force (mn)
2006	1,112	669
2010	1,184	722
2015	1,274	789
2020	1,362	852
2025	1,449	907
2030	1,533	952
2035	1,612	988
2040	1,684	1,018
2045	1,750	1,042
2050	1,808	1,059

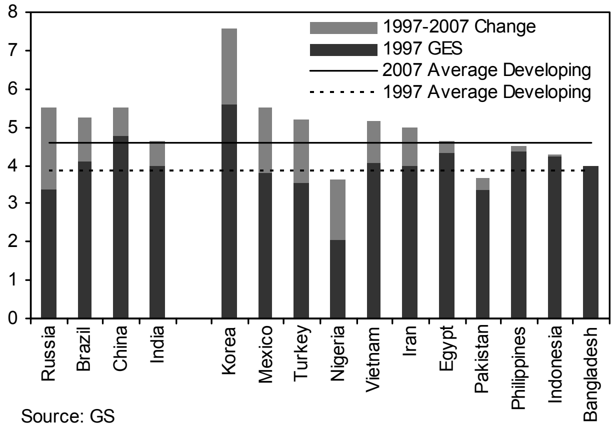
Source: US Census Bureau International Database

Table 2: UN Population Projections for India, Medium Variant (mn)

Age Group	Year 2000	Year 2020
0-14	350	350
15-24	190	230
25-49	330	480
50-59	70	130
60+	80	140
All ages	1020	1330

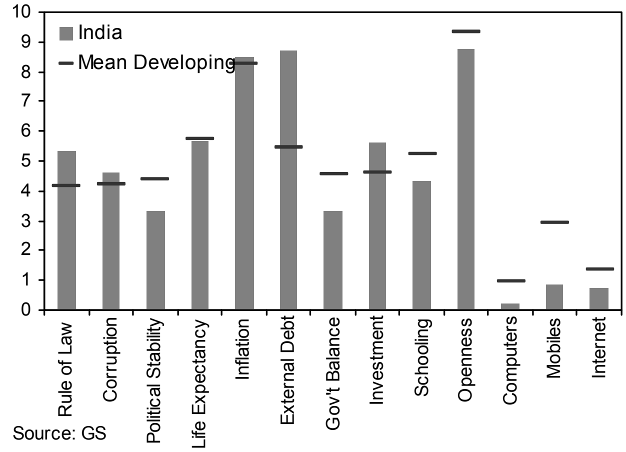
Source: UN

Chart 4: GES Scores For the BRICs and N-11



Source: GS

Chart 5: India 2007 GES Components



Source: GS

most important reform challenges, not least as there are major requirements at both the most basic and advanced levels. We do not include the use of technology as a specific goal; we assume that its usage would probably increase significantly if the other critical forces we now turn to are addressed.

Top Ten Challenges for India

1. Improve Governance

India will find it difficult to realise its potential without much-needed reforms to governance

India's governance problems overarch all its other problems. Without better governance, delivery systems and effective implementation, India will find it difficult to educate its citizens, build infrastructure, increase agricultural productivity, and ensure that the fruits of economic growth are well-distributed.

Governance problems stem from the increasing inability of the government and public institutions to deliver public services in the face of rising expectations. A large gap between physical access to services and the quality of services provided is leading to a citizen satisfaction gap[2].

The problem

- **Accountability of politicians to the voters is weak** because there is little connection between the citizens' vote and the provision of services such as roads, water, education and health-care, as myriad factors affect electoral outcome. There is thus little incentive for even a well-meaning politician to improve services.

- **Citizens do not organise to demand better services**. The politics of caste and other identity politics work so that the benefits of winning elections is not to improve services but to control access to jobs or contracts.

- **The role of the state is blurred** as both a regulator to ensure adequate services and a producer of services. When the umpire is also the player, then there is little incentive to improve delivery.

- **Citizens do not have the ability to hold service providers to account,** as the latter do not depend on them for financing.

Elements of reform

Government's roles as regulator and provider of services should be unbundled

We think that, to resolve these issues, there has be greater accountability of politicians to the citizen, an unbundling of the government's roles as regulator

2. See, in particular, India Development Policy Review, 2006, World Bank, for greater detail on the main ideas in this section

and provider of services, autonomy for service providers, and greater ability of citizens to hold service providers to account for the services they deliver. The elements of reform, in our view, should comprise:

- **Public-private partnerships**. Allowing the private sector to provide public services in wide-ranging areas such as health, primary education, building infrastructure, water supply and inner-city transport would solve several important problems. It would enable the government to fulfil its obligations to supply core services, which are badly served. Citizens would exercise choice over providers, and it would clearly separate the role of provider and regulator, with the government becoming the latter.

Private-sector participation could help solve the problems

- **Decentralisation**. By decentralising provision of public services, the government can unbundle responsibilities across tiers of government to create checks and balances. Decentralisation also strengthens the demand side, as citizens from the bottom-up demand better performance and have scope for voice and choice. It leads to greater accountability at the local level.

- **Greater information**. The use of greater transparency and information can allow more accountability and increased citizen voice in ensuring good governance. The Right To Information Act passed in 2005 is a step in the right direction, as it allows citizens significant access to government data. The initiatives to move government services online—e-governance—can also enhance transparency and reduce transaction costs. However, these initiatives have to be widely used in order to be effective. Further, there is a need for 'reform champions' in the administration who can successfully lead and manage governance reforms.

Some observers attribute India's governance problems to its democracy. We think it is the malpractice of democracy—or the 'democracy deficit'—that is the cause of the problem. A well-functioning democracy should allow citizens to have more voice in evaluating the quality of services they receive, for governments and service providers to be accountable, and for citizens to pay directly for services received. Indeed, economic growth and democracy increase aspirations and expectations of services—as citizens gain greater access to health-care, school and the market, they demand better services. If the system of governance were to respond, it would set in train a virtuous cycle. Thus, the need is for increased democracy, not less; and for more citizen involvement, not less.

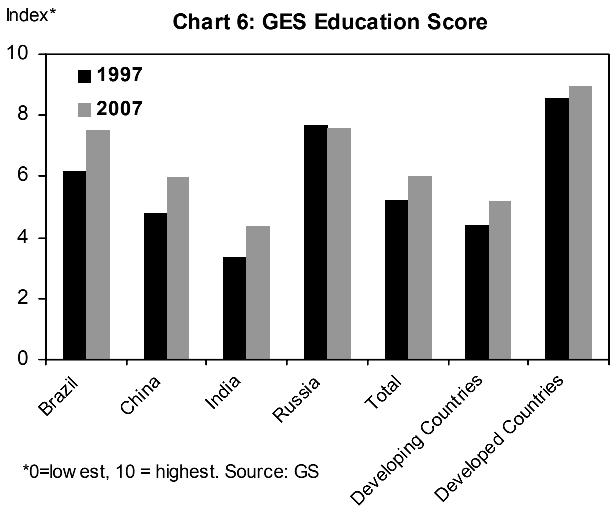
2. Raise Basic Educational Achievement

Many international observers tend to see education as one of India's biggest advantages. This is primarily because they tend to meet only the best and the brightest. It is the case that India has a large number of highly educated people. But it has a population of 1.1bn and probably the highest absolute numbers anywhere globally receiving hardly any education.

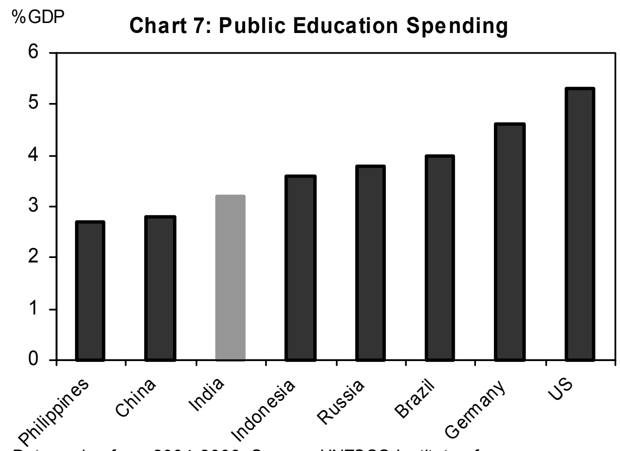
India scores poorly on secondary education in our GES

Our GES scores include a variable for education. We measure the average number of years of secondary education. Some might argue for a more sophisticated measure, but there is evidence that the amount of time spent receiving secondary education is important for economic growth and productivity. India scores poorly relative to the other BRICs, and even below the average of all emerging market countries.

As discussed in *Global Economics Paper No. 152*, the actual amount spent on education is low, and its efficiency is weak. It is important that India improves the amount and quantity of money spent, and that the quality is improved. Without hundreds of millions of Indian citizens receiving a better basic (elementary and secondary) education, it will be virtually impossible for India to achieve its 'dream' potential.



*0=lowest, 10 = highest. Source: GS



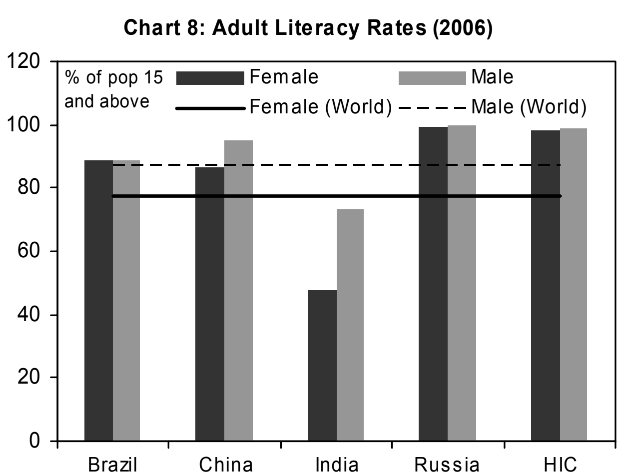
Data varies from 2004-2006. Source: UNESCO Institute of Statistics, CEIC, China Statistic Yearbook 2006

As with other aspects of Indian life, there are considerable differences in organisational structures for education in different states, so broad generalisations are difficult. According to the Government of India, 94% of India's rural population lived within 1km of a primary school, and 84% had 'upper primary' schools within 3K. Despite this, it is believed that only around 80% of 6-14 year olds actually go to school, and that the 'drop-out rate' is very high. Many schools have only one teacher and one classroom, and many have far too many children per teacher. The participation of females is especially poor, and there is evidence in many regions that the attendance of teachers is very low. According to the US State Department, the literacy rate in India remains at a low 61%. The government is, of course, aware of the challenges, and has repeatedly made commitments to a radical improvement, including a plan to ensure 100% school enrolment by 2010.

By 2020, shifting demographic patterns suggest that the number of 0-14 year olds will stabilise at around 350mn[3]. This could help the issue become slightly more manageable in the future, but the challenge remains immense.

Female participation is particularly poor

A number of private-sector and charitable initiatives exist in parts of India, and, together with vastly enhanced government spending and quality improvements, more efforts here could help. Pratham, founded in 1994 with the help of



Source: World Bank

3. Nitin Desai, India 2020: Demographic Dimension – Challenges and Opportunities, paper presented to India-UK Roundtable, Shimla, May 2005.

UNICEF, is the largest non-profit organisation in India. Its vision is to ensure that every child in India goes to school and learns "well". According to Pratham, half the 200mn primary school age children are unable to read or write. Eleven out of 100 children don't enter school, another 35 drop out before completing 4-5 years of schooling, and another 30 drop out before reaching grade VIII. Less than half of those remaining finish their senior school.

Pratham has between 200,000 and 250,000 volunteers. It recently launched an initiative called "Read India", which aims to teach children to read fluently in 4-16 weeks. The (ambitious) goal is to impact about 100mn children by 2009, and they claim more than 21mn have already benefited[4].

Government needs to consider all options to meet the challenges in this area

Successful schemes operating in the US and the UK, such as Teach for America, and Teach First, are likely to be introduced in India as a way of improving teaching standards. Other offshore schemes based on computer and internet learning (or perhaps even mobile phones) are obvious areas in which opportunities for both children and the standards of teaching can be dramatically raised.

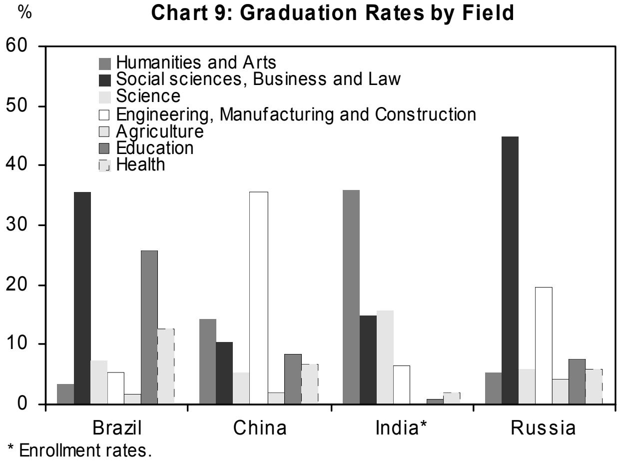
Ultimately it will be the role of the Government to ensure that India can raise educational standards. Without it, India will remain the country with potential.

3. Increase Quality and Quantity of Universities

There is also significant need for better higher education. The likely numbers seeking higher education can be expected to grow by three of four times by 2020 from the current number of around 10mn. The National Knowledge Commission has proposed an increase in the number of universities from 350 today to 1,500 by 2016. It has also proposed an increase in the 18-24 age group —to be educated to university level from 7% to 15%.

Some readers may be shocked to read this, as they will be only too familiar with the successful 'products' of Indian higher education: around 2.5mn graduates emerge each year from universities and colleges. Indeed, in some parts of the world, there are growing fears of an Indian 'brain-takeover' due to the large number of Indian graduates. Many leading international financial firms and technology companies abound with Indian talent that has benefited from higher education. However, again this 'contradiction' also partly reflects numbers. India's domestic needs are large. To emphasise the point once more, between 2000 and 2020, India's population is projected to grow by as much as the total current population of the US.

Chart 9: Graduation Rates by Field



* Enrollment rates.
Source: UNESCO. CEIC

4. For more on the Pratham initiative, see http://readindia.org/

India plans to quadruple the number of its universities in the next ten years—an admirable goal and a huge challenge. Its goal should also probably be that at least 20 of these are the world's best. Shanghai University has become recognised as the authoritative voice on leading universities. Its latest ranking does not show a single Indian university in the top 300. China itself has six.

In order to achieve this kind of ambition, just as in other spheres of life, India's leadership needs to have strong and imaginative goals. Perhaps India can share 'best practices' with leading universities from elsewhere around the world. Given the incredible growth prospects for Indian higher education, leading foreign universities are eager to 'expand' into India, either by developing an Indian campus or tying up with local entities that already exist.

Plans to quadruple the number of universities over the next ten years

At the time of writing, many foreign educational establishments see very difficult 'barriers to entry' into the local market. As with other sectors, this needs to change. Foreign (especially the best) universities should be warmly welcomed.

4. Control Inflation: Why Not Have Inflation Targeting?

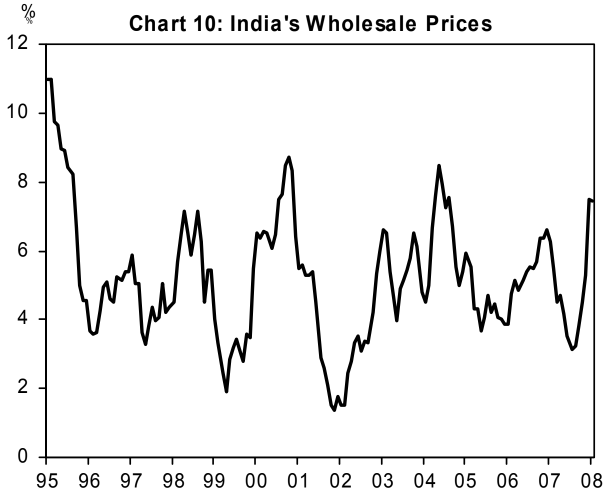
For a nation that is rightly proud of its democracy and has a history of reasonable stability in terms of inflation, we believe formal Inflation Targeting (IT) should become a centrepiece of a clearer, more defined and credible medium-term framework for macroeconomic stability. As part of this, we would recommend greater independence for the Reserve Bank of India (RBI) and the abolishment of all FX controls.

Inflation Targeting could provide major benefits, as it has in many other countries

We are well aware of some of the difficulties, both real and perceived, for India to adopt these choices, but we think it is in India's best long-term interests to undertake these steps. IT has given major benefits to a broad variety of countries, ranging from 'developed' countries (such as New Zealand, Sweden and the UK) to 'developing' ones (such as Brazil, Korea and South Africa). For India, there are probably broader powerful benefits.

India is a very diverse nation, whose population shares a love for democracy. It would be a powerful signal for its 1.1bn people to know that macro-economic stability for the RBI is dominated by the goal of keeping inflation low and stable. We would not want to prescribe the appropriate range with confidence in this article, but around 4%-7% might be sensible if it were introduced today. Beyond the direct benefits, it sometimes seems that many aspects of Indian policy are not conducted in a transparent manner. It is probably impossible for India's huge and diverse population to 'know' what economic policy is trying to achieve. A credible and strongly respected IT could help change that overnight, at least for economic policy.

Chart 10: India's Wholesale Prices



Source: GS

We have discussed the idea with a number of opinion-formers in India, most of whom suggest it is naïve and fails to acknowledge India's 'unique' problems. The following is our response to the four most frequent objections.

- India does not have an official and credible consumer price index (CPI). Easy, spend some resources to develop one! Policymakers have recently suggested one is on its way.
- India doesn't have an inflation 'problem'. That may be true currently (or was until recently), but why not introduce a framework to solidify that?
- Some argue that without a more credible and thoughtful fiscal policy, an IT framework would be burdened from the start. Maybe, but if there were credible IT, the government itself would be constrained. In addition, as discussed below, a credible medium-term strategy for fiscal policy is necessary.
- Food prices would constitute too big a share of India's most likely representative consumer price basket, and many of these prices are administered. We have two responses to this. First, the target could exclude food and energy. Second, as India develops, the government should **not** be administering prices so readily and frequently.

We don't believe that India's challenges are easily overcome, including the need for a better, more credible and transparent macroeconomic framework. But this should not prevent India from trying to meet the challenges.

5. Introduce a Credible Fiscal Policy: A Medium-Term Strategy

India's gross fiscal deficit still one of the highest in the world...

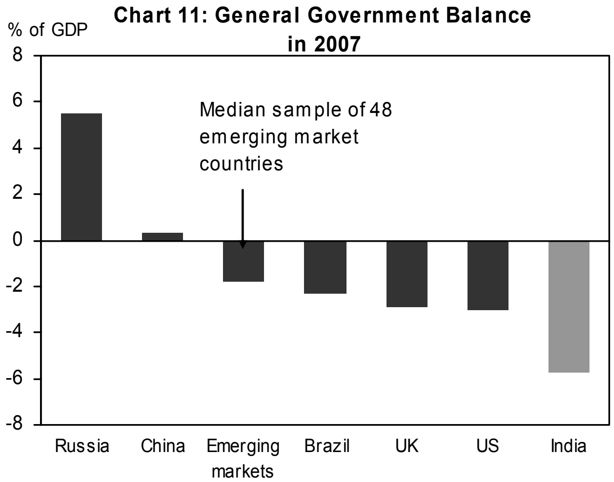
India's gross fiscal deficit remains one of the highest in the world and, recently, government liabilities have been increasing at an alarming rate. We estimate that the overall government deficit[5] stood at just under 6% in FY2008. In FY2009, this may accelerate to above 7%, due to a large debt-waiver for farmers, a big wage hike for civil servants, increasing fertiliser and oil subsidies, and higher exemptions on income tax. At such high levels, government borrowing crowds out private-sector credit, keeps interest rates high, adds to already high government debt, and becomes a key source of macro vulnerability. Further, the composition of spending is undesirable. Expenditures are directed less towards productive investment—especially in much-needed areas such as health, education and infrastructure, which could enhance growth—but rather on wages and subsidies. These do not improve long-term growth potential. One example places this in context: India's central government subsidy on food, oil and fertiliser is equivalent to the entire collection on income tax.

We think a medium-term strategy for fiscal policy, which reduces the overall deficit to a sustainable level, is critical for India. Such a fiscal plan would provide several important benefits:

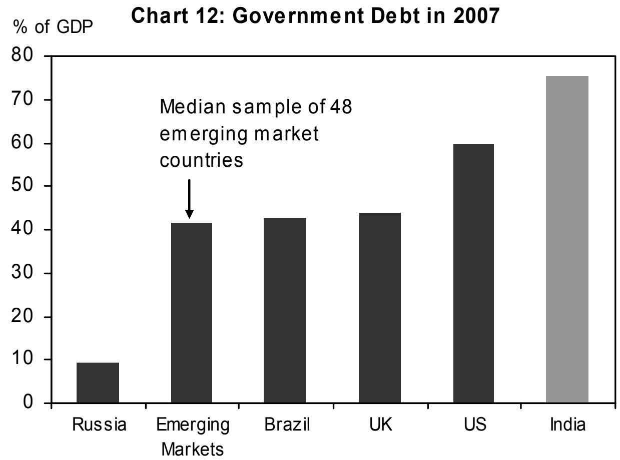
...but a credible fiscal policy would provide important benefits...

- It would discipline the government and politicians, restrain populist spending, improve governance and make the fiscal deficit largely independent of political and election cycles.
- It would allow the central bank the space to follow meaningfully an independent monetary policy (as argued above), as it would be unburdened from providing large amounts of financing to the government, and focus on an inflation target, which fundamentally affects the lives of hundreds of millions of Indians.

5. Including central deficit, state deficit and off-budget subsidies on oil, fertiliser and food.



Source: IMF and CEIC



Note: For Brazil, US and emerging markets, public debt figures have been used. Source: IMF and CEIC

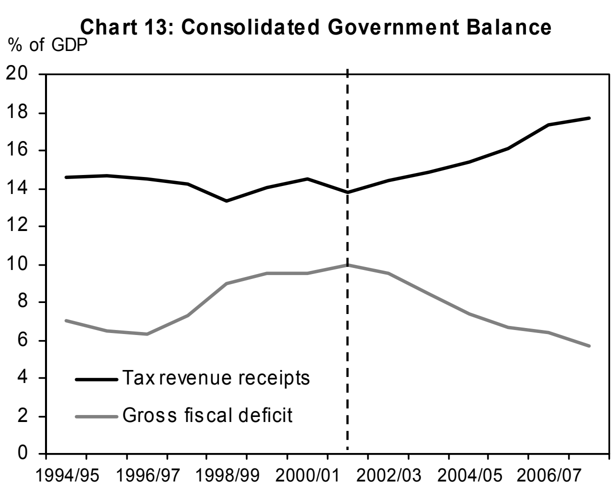
- It would improve the overall savings rate by reducing government dis-saving; improve sovereign ratings and the investment climate; and allow for increased credit to the more dynamic private sector, thereby increasing growth.

- The hard budget constraint that a fiscal rule would impose would discipline spending, and improve the composition towards more efficient and growth-enhancing purposes, such as towards health, education, and infrastructure.

- It would enhance macro stability, by increasing the flexibility of the government to respond to adverse shocks by tightening or loosening as the case may be. Currently, with such a high fiscal deficit, the government has no fiscal space to respond to high oil and commodity prices, without endangering its fiscal health, and a large increase in debt.

...and is eminently feasible

Such a medium-term strategy for fiscal consolidation is eminently feasible in India. Since 2002, the government has had in place the FRBMA, which mandated a reduction in the central fiscal deficit by 0.3% per year. Over the past several years, the FRBMA has been adhered to and India has brought its central deficit down from 6.2% of GDP in 2001/02 to 3.4% in 2007/08, and state deficits down from 3.2% of GDP to 2.3% over the same period. A prudent medium-term strategy can be followed in India. What is now needed is a successor to the FRBMA that has more of a permanent dimension. We think a



Source: CEIC

combined deficit of 3% at the centre and 1.5% at the state level is eminently achievable.

The basis of such a programme has to be commitment by all political parties to improve the health of the government. It would require putting all off-budget subsidies on-budget so that citizens and Parliament can assess the true picture. The programme should initially be based on expenditure restraint, but eventually must be underpinned by revenue sources. India's revenue base has already been broadening in recent years due to tax administration reforms such as TIN, the implementation of VAT and bringing more tax-payers into the direct tax net. However, much still needs to be achieved. The implementation of a country-wide Goods and Services Tax by 2010 will be critical both for generating revenues and in improving the efficiency of the system.

There was a time in the 1980s when India's macro environment was caught in a low-growth equilibrium due to high fiscal deficits, a rising interest burden, fiscal dominance[6] and low credit to the private sector. It is important not to forget the lessons of the 1980s and, without a medium-term fiscal policy strategy, sovereign finances could once again be on a dangerous footing.

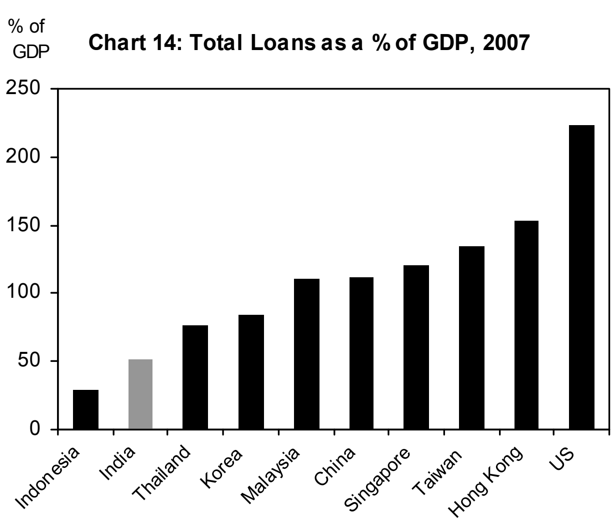
6. Liberalise Financial Markets

India's financial sector remains small and underdeveloped. The state still dominates the sector, holding 70% of banking assets, a majority of insurance funds and the entire pension sector. Additionally, markets are lacking in corporate debt, currency and derivatives. This leads to a lack of credit and low financial savings. Total credit, at 50% of GDP (although increasing rapidly in recent years), remains well below that of its Asian neighbours (an average of over 100% of GDP) and especially compared with China (111% of GDP). Within this, consumer credit remains abysmally low (at 11% of GDP) compared with an Asian average of over 40% of GDP. Household savings tend to be in physical assets and gold, and risk diversification channels are not available.

Financial reform needed to channel savings into investment

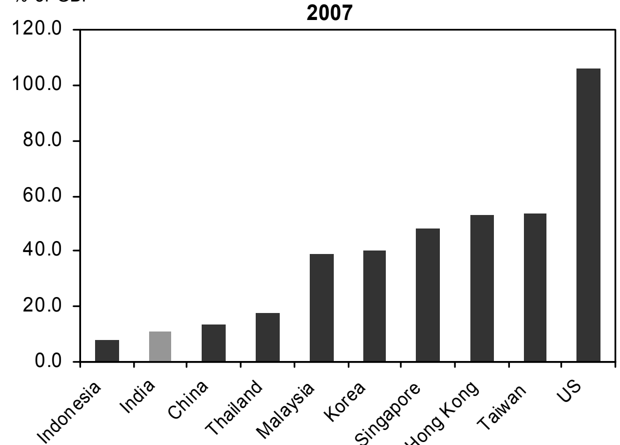
To meet its growth potential, India needs to pursue financial reforms to channel savings effectively into investment, meet funding requirements for infrastructure and enhance financial stability. Savers need to have access to a broad range of financial instruments, while borrowers should be able to access local debt and equity.

Chart 14: Total Loans as a % of GDP, 2007



Source: RBI, CEIC, GS

Chart 15: Consumer Loans as a % of GDP, 2007



Source: RBI, CEIC, GS

6. By fiscal dominance we mean the government's large borrowing programme, which dominated bank balance sheets and constrained RBI's monetary management

To develop India's capital markets, we think reforms need to proceed on several fronts.[7]

- **Pension and Insurance reforms.** Liberalise the current onerous restrictions on investments by pension and insurance funds, which lead to a vast majority of assets being invested in public-sector securities.

- **Currency, interest rate and derivatives market.** At present, these markets have weak institutional structures, poor liquidity, lack width or depth, participation is constrained through a number of eligibility and origin barriers, and arbitrageurs and risk-takers are discouraged, impeding price discovery.

- **Bond market reforms.** The corporate bond market remains small and underdeveloped. We have elaborated at length on the reforms required to develop the bond market[8]. If undertaken, the bond market could increase six-fold to $575bn by 2016.

- **Banking sector reforms**. This is a long-term and complex effort that will involve divesting government ownership of public-sector banks, allowing investor voting rights in proportion to ownership, encouraging consolidation, and fully opening up to foreign banks.

India has thus far been able to sustain growth rates, without major reforms in its financial sector. As the development of the equity market has shown, if India were to reform other aspects of its financial sector, it could prove a big engine for growth, with large employment opportunities and efficiency improvements which would benefit the entire economy. In the present context, with massive financing needed for infrastructure and other industrial capacity expansion, a well-functioning financial sector is no longer a choice but an imperative to sustain growth.

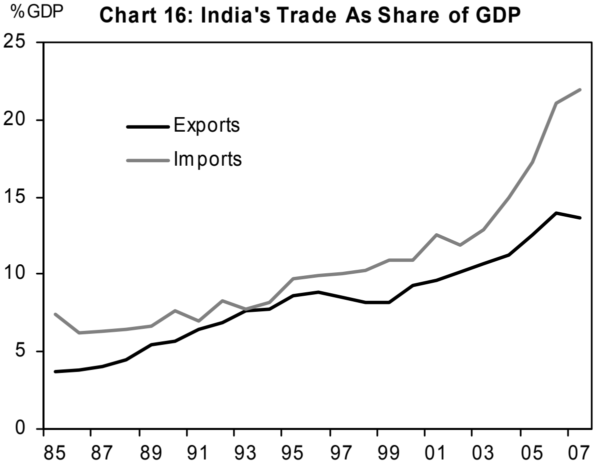
7. Increase Trade With Neighbours

Trade with the rest of the world has risen dramatically in the past decade...

In the past decade or so, Indian trade with the rest of the world has ballooned. Lower tariff barriers encouraged by Indian authorities have been key, as has booming world trade.

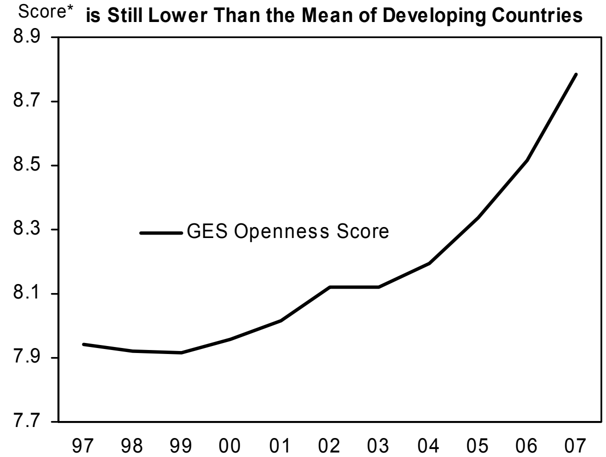
This impressive development needs to be kept in perspective, however, as it has come from an exceptionally low base. India currently accounts for no more

Chart 16: India's Trade As Share of GDP



Source: IMF

Chart 17: India's Openness Score Has Improved But is Still Lower Than the Mean of Developing Countries



*Index, 0 =Lowest and 10 = Highest. Source: GS

7. Several recent reports commissioned by the Govt of India have also argued for similar reforms.
8. See *Global Economics Paper No. 161* — 'Bonding the BRICs: A Big Chance for India's Debt Capital Market' (November 7, 2007)

Table 3: India's Trading Partners

	Share of Total Trade (%)	2000	2007
1	USA	13.2	10.8
2	China	2.4	9.9
3	UAE	3.8	5.0
4	Germany	3.9	4.2
5	UK	5.7	3.3
6	Japan	4.1	2.7
7	Australia	1.6	2.6
8	Hong Kong	3.7	2.5
9	Malaysia	2.1	2.2
10	Switzerland	3.7	0.6
11	Belgium	0.1	0.0

Source: IMF

than 1.5% of global trade. On our GES scoring system, India still ranks below the average of all developing countries. India's trade with China is rising sharply, and China now ties with the US as India's biggest trading partner. Again, however, it is important to recognise that trade with China remains very low. India takes just 1.93% of China's exports and provides just 1.46% of its imports.

...but has the potential to grow much faster...

Total trade with the US in 2007 was just $42bn. For comparison, total US trade with China in 2007 was $405bn. Similarly, total Indian trade with China was just $37bn.

Ambitious goals are needed

India has announced ambitious goals for its international trade: it aims to reach 5% of world trade by 2020, and for exports to rise to $200bn by 2008/09 (around $155bn in the latest year). These goals follow the Foreign Trade Policy report for 2004-09, which included detailed specific measures for boosting trade, including for specific industries. These were agricultural products, handlooms, handicraft, gems and jewellery, leather and marine sectors.

...if India can take advantage of trade with its neighbours

What about trade with close neighbours?

India's trade with China has only recently started to rise, as historical, political and territorial clashes resulted in extensive trade barriers. Similarly, trade developments with other large population neighbours have been restricted due to past (and in some cases ongoing) territorial and border disputes. Trade with both Pakistan and Bangladesh is weak. India's potential for rapidly increased trade is huge. Not only does India have the biggest BRIC nation as a direct neighbour, but it has two N-11 neighbours, Pakistan and Bangladesh. These two are the least-improving of the N-11 countries (as our general GES scores show), but given the potential due to the size of their populations, the scope for rapidly rising trade is substantial. This should encourage increased efforts for better political relationships with neighbours. Various trade bodies, such as the SAARC and SAFTA, have been established to help boost trade, but historical disputes still seem to dominate trade ties.

Table 4: Dreaming for Indian trade

GDP Projection (in 2007 US$ bn)	2020	2050
China	13,877	76,369
Russia	2,912	8,928
Indonesia	893	8,018
Iran	610	3,451
Pakistan	277	2,234
Bangladesh	155	1,521

Source: GS

Another BRIC, Russia, and two other N-11 countries, Indonesia and Iran, are not geographically far away either. Other N-11 countries that are fairly close to India are Egypt, Turkey, the Philippines and Vietnam. If India can be encouraged to think increasingly 'global', the virtuous benefits of trade with other emerging giants with large populations could be a source of considerable upside surprise for India. Some simple maths make the point very powerfully.

BRICs and N-11 countries could play an important role

Our latest 2050 'Dream'-style projections show dramatic potential growth for China and Russia, as well as India, within the BRICs, and (although to a lesser degree) also pretty dramatic potential for the relevant N-11 countries. Consider the following basis assumptions:

- By 2020, China's GDP could reach over \$14trn, and a staggering \$76trn by 2050. Russia could reach \$3trn and \$9trn, respectively.
- Of the N-11, countries, Indonesia has the highest potential, reaching a possible \$8trn by 2050.
- We assume that India reaches the stated goal of a 5% share of global trade by 2020, and maintains this through 2050. We also assume that imports for each of the six BRIC and N-11 'neighbours' reach 25% of their GDP. Under these assumptions, India could be exporting \$157bn-worth of goods and services to China by 2020—the same as today's total globally and a 12-fold increase to China—and a staggering \$877bn to China by 2050, nearly 90% of the size of today's total Indian GDP!
- Adding in the others shown in the table, India could be exporting \$243bn-worth of goods to these nations by 2020, and \$1,150bn by 2050. Currently, these countries collectively account for 14.1% of India's total exports. Excluding China, this figure is 5.7%.

Clearly, the potential is huge. Of course, the BRIC and N-11 'dream' may never occur. But, for some trading partners, such as Bangladesh and Pakistan, India could feasibly achieve more than a 5% market share.

8. Increase Agricultural Productivity

Increasing agricultural growth is critical not only for India to sustain high growth rates, but also to move millions out of poverty. Currently, 60% of the labour force is employed in agriculture, which contributes less than 1% of overall growth. India's agricultural yields are a fraction of those of its more dynamic Asian neighbours. For instance, rice yields are a third of China's and half of Vietnam's.

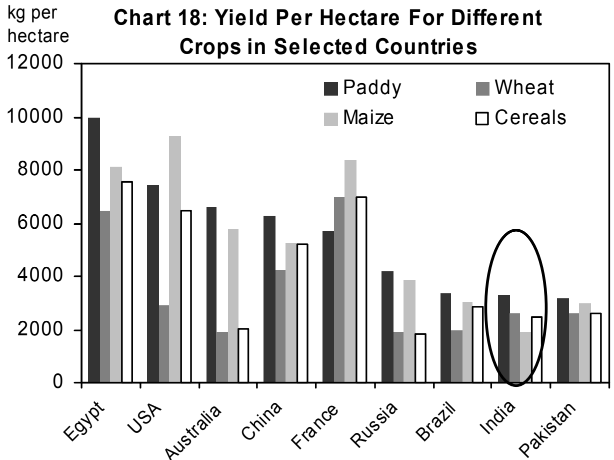
60% of the workforce employed in agriculture, but the sector accounts for just 1% of overall growth

Agriculture will have to contend with two other problems. First, the loss of arable land for non-agricultural uses as India industrialises and urbanises. Second, soil erosion due to intensive farming and environmental degradation. Since there are limits to enhancing area under cultivation, as forest cover is already dwindling, raising agricultural productivity will be key.

It is widely acknowledged in policy circles that improving agricultural productivity is critical to sustain high growth and reduce poverty, and policies and implementation are the areas that need to see more progress.

We think there needs to be movement on three fronts for agricultural productivity to increase:

- **The quantity and quality of public investment in agriculture needs to be substantially increased.** Currently, subsidies are four times the amount of investment, which does not enhance future productivity. Investments need to be made in electricity, irrigation, rural roads, and storage and transport of food grains, among others.



Note: Rice (cleaned) production = 2/3rd of paddy production.
Source: The Fertilizer Association of India

- **New technology needs to be harnessed to raise yields**. R&D for innovation in agriculture needs to be encouraged. The Green Revolution[9] that substantially increased food grain output and productivity were as a result of better seeds and technology. India needs to continue to leverage global technologies to increase yields.

Improvement needed on three fronts: public investment, new technology and deregulation

- **Agriculture needs to be deregulated to allow greater commercialisation and economies of scale**. Abolishing controlled prices, eliminating taxes on inter-state movement of goods, allowing farmers to sell directly to organised retail, and removing restrictions on land holdings (which are currently circumscribed by land ceiling acts), leading to fragmented land holdings, would increase productivity. The government also sets minimum purchase prices for about 25 commodities, which eliminates price signals and distorts incentives to innovate.

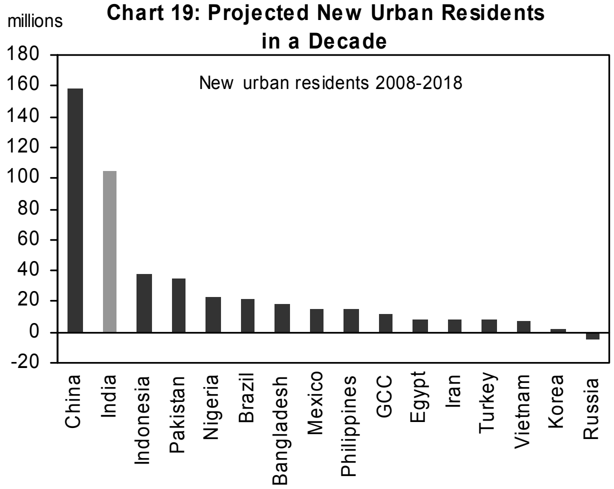
The recent increase in contract farming is encouraging. It allows greater investment, better technology, access to land and finance, a market focus in terms of crop selection, incentives to boost productivity. The backward integration of organised retail into agriculture also holds the potential of increasing investments, allowing economies of scale and resolving the large inefficiencies in the supply chain, and thus needs to be encouraged. However, contract farming is not a panacea, and public investment should supplement private investment where there are clear market failures.

9. Improve Infrastructure

India's constraints in infrastructure are obvious to first-time visitors or long-term residents. The problems of clogged airports, poor roads, inadequate power, delays in ports have been well-recognised as impeding growth. Indian companies on average lose 30 days in obtaining an electricity connection, 15 days in clearing exports through customs, and lose 7% of the value of their sales due to power outages (see Charts 20, 21 & 22).

Incremental demand for infrastructure will continue to increase due to economic growth and urbanisation. Thus, there is both a stock and a flow problem. If India's economic growth were to continue as we envisage, it will fuel demand for energy, transport, logistics and communication. Additionally, India is in a phase of increasing urbanisation. Currently, only 30% of India is urbanised. We estimate that this may increase to just above 60% by 2050, thus

9. The name given to the dramatic increase in yields of Indian crops in the 1970s after the adoption of high-yielding varieties of seeds developed in Mexico.



Source: United Nations Population Projections. Census Bureau

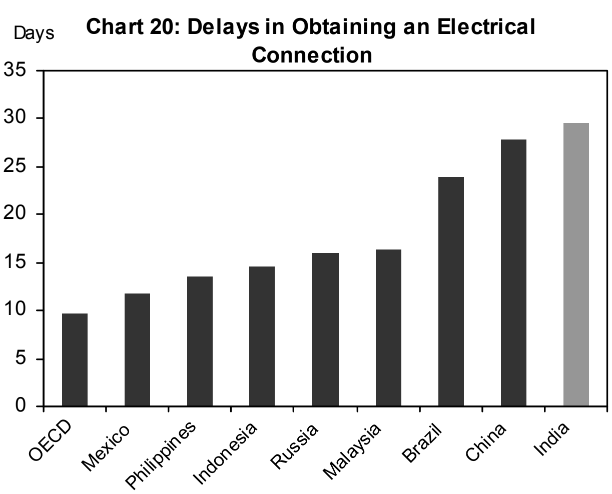
leading to an additional 700mn people living in cities. The impact on infrastructure demand will be enormous, from demand for inner-city transport, water and sewerage to low-income housing. The Planning Commission estimates that India needs almost to double its ports, roads, power, airports and telecom in the next five years to sustain growth.

If India can realise its growth potential, then demand for energy, transport, logistics and communication will grow

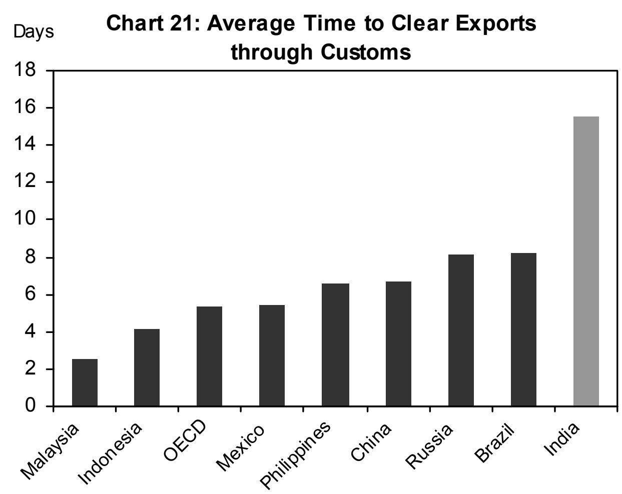
The problem

- **Financing.** The Planning Commission estimates that India needs an additional $500bn over the next five years itself to finance infrastructure[10]. A large percentage of that will have to come from the government. However, government finances are not in good shape, which does not augur well for increasing investment rates dramatically.

- **Institutional constraints.** There are capacity constraints in managing and executing infrastructure, especially at the state level. At the state level, there is very little capacity for ownership and stewardship of infrastructure development in the municipal bodies. There is also a shortage of skilled engineers and technicians, which severely constrains rapid infra roll-out.

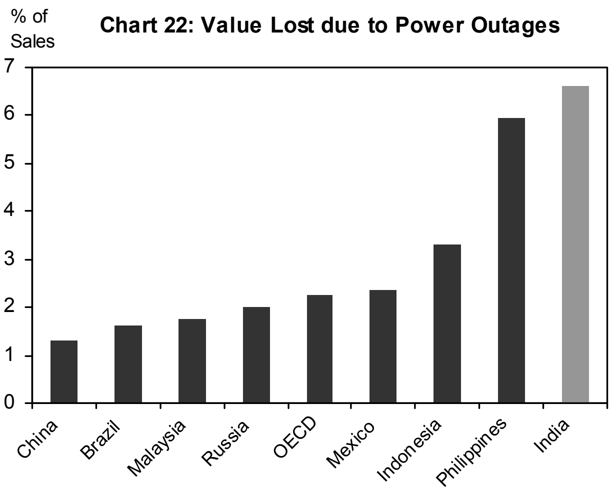


Source: Enterprise Survey, World Bank



Source: Enterprise Survey, World Bank

10. In our recent *Global Economics Paper No. 166* — 'Building the World: Mapping Infrastructure Demand' (April 24, 2008), we estimate that over a decade, total infrastructure investment in India could be $620bn

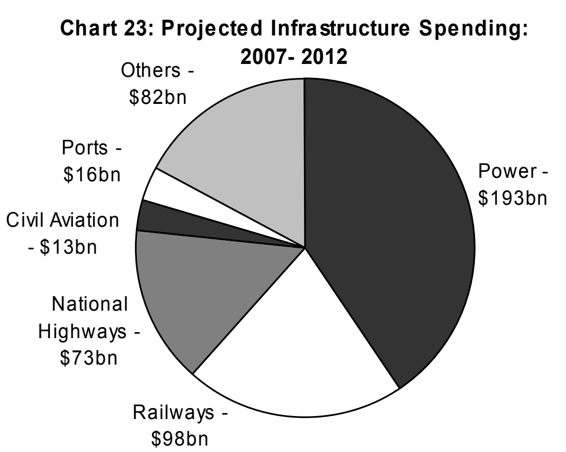


Source: Enterprise Survey, World Bank

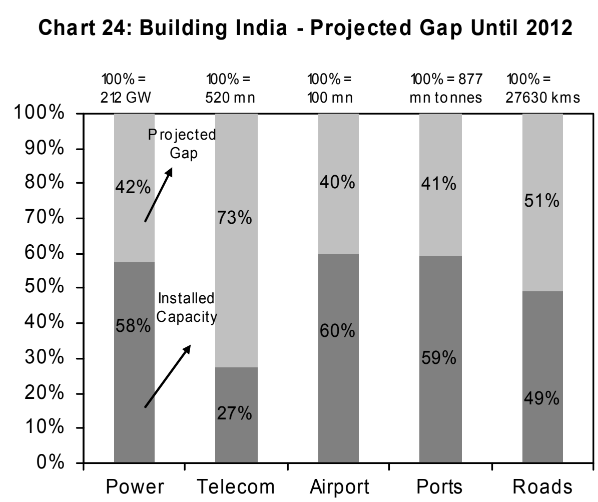
- **Regulatory issues.** Till very recently, the government dominated the infrastructure space, and private investment was negligible. Still, there are significant areas of infrastructure that are not open to private investment. User charges on water, road and power are not yet commensurate with marginal costs, as they are politically sensitive, thus impeding private investment. There are significant barriers to entry for firms, especially foreign firms, and FDI limits are still in place. Further, there are frequent changes in regulatory policy in all areas of infrastructure, including telecom, roads and power, which increase uncertainty and impede private investment.

Elements of reform

To help resolve financing issues, India needs to develop its capital markets. Critical to the availability of finance is the need for a vibrant and liquid corporate bond market. Financial sector reforms such as deregulation of pension and insurance markets, and especially allowing more foreign participation in the banking sector, will be important in this regard. India can avail of public-private partnerships, and financing models such as viability gap funding, and use its foreign reserves as an SWF, to buttress the availability of capital for infrastructure.



Others include telecom, SEZs supporting urban infrastructure, water and sanitation, state and rural roads, logistics, pipelines etc.
Source: GS Calculations & Planning Comission



Source: Planning Commission

To encourage greater private-sector participation, the regulatory constraints need to be removed. It has become increasingly evident that the government, by itself, will not be able to build the infrastructure. It has therefore moved to models of public-private partnerships. These have yielded some successes in areas such as road-building and ports, apart from the big success story of telecom. We think India needs to encourage more private-sector participation in building infrastructure. In all, 35 new airports need to be built according to the Planning Commission. We do not think this is feasible without significant private participation. To encourage private participation, user charges will be essential on water, power, roads and other urban services; and policy needs to be consistent and stable, with governmental interference at a minimum.

A vibrant and liquid bond market is needed

The success stories in the past few years need to be replicated. India has built more than 3,600 miles of highways for the Golden Quadrilateral Highway project, whereas in the previous 50 years it had built 300 miles; the New Delhi metro was completed earlier than envisaged; and the privatisation of the telecom sector, and its rapid growth and penetration, are all success stories that demonstrate that India can build infrastructure. The ability to continue to do so will be critical for the growth of the economy.

10. Improve Environmental Quality

India's high population density, extreme climate and economic dependence on its natural resource base make environmental sustainability critical in maintaining its development path. History is replete with instances of societies that have depleted their natural resources in the course of their development, thereby leading to severe loss of growth, and in some spectacular cases (e.g., Easter Island)[11] a complete collapse of the civilization. Although such dire prognostications are premature, urbanisation, industrialisation and ongoing global climate change will take a heavy toll on India's environment, if not managed better.

India must improve awareness of environmental issues...

Environmental degradation affects the economy in several ways, which have been widely documented[12]. For India the impact would come from declining agricultural area and productivity due to soil erosion; reduced labour productivity from poor urban air quality, and the threat of toxic and chemical waste in the environment, among others[13].

In the power sector alone, India plans to add some 70,000 MW in the next five years. The dominant source of power will be coal, which accounts for some 60% of power generation. Coal is infamous for its significant environmental effects, including gaseous emissions, high ash content, problems with disposal of ash, and its large emissions of carbon-dioxide.

For greater environmental sustainability, the solution, in our view, must encompass:

- **Greater public awareness of the importance of environmental sustainability**, and of collective action in achieving success. In this regard, the Right to Information Act (RTI) provides a great opportunity for transparency and awareness.

- **Adopting new and cleaner technology, especially in energy**. As an example, small-scale industries in Kolkata were found to contribute some

11. See Jared Diamond's 'Collapse: How Societies Choose To Fail Or Succeed', New York, USA. The Viking Press, 2004.
12. See the Stern Review on the economics of climate change.
13. See 'India: Strengthening Institutions for Sustainable Growth; Country Environmental Analysis', World Bank, 2006 for a detailed analysis of India's environmental problems and solutions.

44% of overall particulate emissions in the central area as they were using coal-fired boilers. They were encouraged to convert from coal- to oil-fired boilers, and this reduced emissions by 98% from those units that implemented them.

- **Arming the regulatory agencies with more teeth and building their capacity**. The World Bank estimates that small and medium enterprises account for 70% of total industrial pollution, and are a major source of environmental degradation. The regulatory bodies need to be able to enforce pollution standards by having the requisite capacity, using credible threats, and also make a greater use of economic incentives—offering carrots to those adopting new technology, and sticks to those polluting.

…adopt cleaner technology and empower regulatory agencies

India is well-placed to deal with environmental issues. It has a strong policy and institutional framework—including a separate ministry for environment and forests; state and local pollution control boards; a vocal media; and of late a very active judiciary. The latter, for instance, was responsible for a number of initiatives to clean up Delhi's air quality, such as passing laws against vehicular emissions and the location of industries within the city.

The political commitment to a sustainable environment is, however, still lukewarm, and significant segments of the population may profess to have other, more pressing priorities. If not given the right priority, environmental sustainability has the potential to become India's greatest challenge.

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