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Ashok K. Roy
Aniruddha Bagchi

The centerpiece of the 2007 Report by Goldman Sachs is the prediction of India's phenomenal economic growth and power in the next few decades. In this article we critique the conceptual validity of that prognosis. In particular, we highlight several hard and soft infrastructure impediments to India's emergence as a major economic power.

An economist surveying the Indian economic scene needs to be a Hamlet, the Prince of Denmark. In a dialogue with his mother, Hamlet showed her two pictures, one of his own father and the other of his stepfather, and he pleaded with his mother:

"Look here, upon this picture and on this,
The counterfeit presentment of two brothers,
Have you eyes?"

(Shakespeare, Hamlet, Act III, Scene IV, line 53)

According to the January 2007 Report titled "India's Rising Growth Potential" by Goldman Sachs, India is projected to become the third largest economy by 2050 behind China and the United States. The Report goes on to opine that Brazil, Russia, India and China (BRIC) could outrank the combined economic might of the Group of Six (G6). Since 2003, India's growth reflects a structural increase rather than a cyclical upturn. The said Report predicts a sustainable average growth rate of 8.4% till 2020 thereby surpassing the United States GDP before 2050 and overtaking the G6 economies. The Goldman Sachs BRIC report projects that by 2015 India's economy will be equal to that of Italy's and by 2020 with that of Britain's. Because of the 8.5% growth of the Indian economy over the
last decade, no country dominated the conversation and imagination as India did in 2006 at the World Economic Forum in Davos, Switzerland.

Few would doubt the centrality of the Goldman Sachs Report and the pivotal position of India in today's global economy. The conceptual linchpin of the Report rests on India's potential and its ability to grow. We feel it is important to point out there are entirely different and dichotomous worlds in India.

Two pictures of India - one reflecting performance and strong growth, and the other depicting misery on a mass scale, constitute the Indian economic paradox. A manifestation of this paradox is that while India produces more engineering graduates than America, it has fewer than three broadband connections and only 24 personal computers for every 1,000 people. India's genius is in software as evidenced with GE's technology center in Bangalore working on advanced jet engine propulsion systems, the Microsoft research laboratory in Bangalore working on code-breaking and other problems, and the production of over 60,000 finished drugs/medicines. The paradox continues as India makes all these drugs but copies almost all of the compounds, and China makes computers while importing most of its chips.

One of the most important events in the current world order is the emergence of India and China as important economic powers. Today, with over 100 multinational organizations having their Research & Development (R&D) centers in India, India is ranked as the sixth most popular destination. China is even more popular with over 750 R & D centers and is ranked at number three after the United States and United Kingdom. Both India and China were technologically and economically advanced till the 1500s. However, subsequent inward looking policies both politically and socially halted their progress. It is widely accepted that both of these countries reached their nadir in the 18th and 19th centuries. In 2005, a third of science and engineering graduate students in the U.S. universities were foreign, and by 2010 it is estimated that only 15% of the world's science and engineering doctorates will come from the United States. As a consequence, to fill its research laboratories with the best and the brightest minds, today's giants such as Microsoft are increasingly looking at Bangalore and Shaoxing.

The focus of this article is on the emergence of India and our contention that while India has indeed progressed substantially over the last decade, certain problems need to be fixed soon enough or the progress might halt.

To begin with, India now grows at an annual average rate of 8% which makes it one of the fastest growing economies in the world. When an economy with a population of 1.1 billion grows at this pace, it obviously creates both opportunities and threats for the rest of the world. In terms of opportunities, such an economy creates a huge market and thereby represents a huge profit opportunity for companies, while, in terms of threat, the vast army of reserve labor available in
India at minimal wages means that many firms are induced to shift many of their operations to India (and China) at the expense of jobs in the developed countries. The economic indicators suggest that India is doing extremely well at the moment (Wilson and Purushothaman, 2003). Its stock market is booming with returns in excess of 30% over the last few years. Indian firms are now confident enough to acquire companies abroad at an unprecedented scale. For example, the Tata group which is one of India’s premier industrial houses has acquired a European steel firm, Corus, and is now contemplating making a bid for Jaguar. Overall, the mood is one of optimism. India’s exports of IT services alone are now over $18 billion employing 560,000 people. By 2016 it is estimated that India and China will account for around 40% of world trade (Khanna, 2007).

However, there certain pitfalls on the way and in the rest of this article we argue that unless addressed properly, each of these problems can threaten to slam the brakes on India’s growth. In section two, we focus on the lack of physical infrastructure in India. By physical infrastructure, we refer to transportation infrastructure and power supply. In section three, we then discuss the role of different aspects of human resources such as education and health. In sections four and five, we discuss the role of population growth and inequality and discuss their roles as potential pitfalls. Finally, in section six, we discuss the role of the legal system. The concluding remarks are at section seven.

Physical Infrastructure

It is a fact that there is an amazing dearth of physical infrastructure in India. According to Hiscock (2004), in 2002, India spent only $31 billion on infrastructure while China spent $260 billion. Low spending on infrastructure over a long period of time has resulted in a scarcity of infrastructure in the country. This shortage of infrastructure is prevalent in all areas - roads, ports, airports, and power supply. According to data available from the National Highway Authority of India (henceforth, NHAI), the state of national highways is as follows:

<table>
<thead>
<tr>
<th>Status of National Highways as on 30th November, 2007</th>
<th>Relative Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Lane</td>
<td>32%</td>
</tr>
<tr>
<td>Double Lane</td>
<td>56%</td>
</tr>
<tr>
<td>Four or more lanes</td>
<td>12%</td>
</tr>
</tbody>
</table>
Notice the dearth of four-lane highways. In addition to this, there is the problem that existing infrastructure is also not being maintained properly.

Because of the small size of India's ports and their inefficient organization, it takes 6-12 weeks on an average compared to three-six weeks for China (Hiscock, 2004). The following data, available from the Ministry of Shipping, Road Transport and Highways of the Government of India allows us to compare the average productivity of Indian ports with the ports of Rotterdam and Singapore. Notice the relatively low productivity of Indian ports.

<table>
<thead>
<tr>
<th>Port</th>
<th>Quay crane productivity (no. of moves/hr.)</th>
<th>Vessel rate (No. of Container/hr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Ports</td>
<td>20</td>
<td>40 @ 2 QC/Vessel</td>
</tr>
<tr>
<td>Port of Rotterdam</td>
<td>25</td>
<td>70 @ 3 QC/Vessel</td>
</tr>
<tr>
<td>Port of Singapore</td>
<td>25-30</td>
<td>100 @ 4 QC/Vessel</td>
</tr>
</tbody>
</table>

Lack of infrastructure raises the cost of doing business in India and affects the delivery schedules. It also serves to protect entrenched businesses which have already made the first claim to the existing infrastructure. At present, it is hard to say whether these problems can be alleviated quickly or not. In many instances, the main problem is a lack of political will rather than a dearth of funds. For instance, in order to expand the road network, the government has to acquire land. In a densely populated country such as India, land acquisition is one of the most difficult issues politically. Therefore, an expansion of the road network in India depends to a large extent on the government's efficiency in acquiring land.

**Human Resource**

It is well-known that the information technology (henceforth, IT) industry is acting as the engine of India's growth. In order for such sophisticated industries to thrive, there has to be steady supply of skilled labor. However, as of now, India only has a literacy rate of 61%. Further, many of the officially literate people are functionally illiterate. Only about 4% of India's population have a graduate degree and only 7% of its 1.1 billion people attend university. It must also be added that there is a huge variation in the skills of these graduates. The small number of graduates has ensured that those with acceptable level of skills command a premium in the market. Wages in the IT sector are already growing at 15% annually and eroding the competitiveness of India's firms. This trend can be arrested if there is a spurt in the numbers of educated people. However, the government spends only about 4% of GDP on education and given the huge budget deficits is
unlikely to step up its spending on education. The quality of schools in India is abysmal at present. For example, according to data available from United Nations Educational, Scientific and Cultural Organization (UNESCO), the pupil-teacher ratio (at the primary level) is 40 in India as opposed to 18 in China.

The quality of universities in India also needs substantial improvement. According to the Academic Ranking of World Universities, 2007 (Shanghai Jiao Tong University, 2007), not a single Indian university ranks in the top 100 of world universities. Unless something is done to both improve the quality of universities, India’s growth might stutter sooner rather than later.

India also hasn’t made much progress in terms of health. According to information available in WHO’s website, life expectancy at birth for males in India is 62 years and for females is 64 years. This is substantially low compared to developed countries. Since India only spends around 5% of its GDP on health, this is unlikely to improve much further. Such poor quality of health affects India’s economic performance in myriad of ways. Healthy workers are more productive. From this dimension, one can infer that India’s labor productivity can go up if it has a healthier population. Further, an individual will only invest in education if she believes that she has a high chance of having a long life. This is because spending time in school has an opportunity cost of lost wages and a long life allows an individual enough time to recover the investment. India’s poor health therefore impedes on human capital acquisition which in turn affects India’s economic performance.

**Population**

Currently, India has a population of 1.15 billion and the population is growing annually at 1.6% (CIA, 2008). By 2035, India will overtake China as the most populous nation in the world. Such a high rate of growth implies that the growth per capita is only around 6%. Besides, it is becoming increasingly difficult to find jobs for such a rapidly growing population. According to data available from the Directorate General of Employment & Training of the Government of India, the rate of employment growth between the years 1994-2000 was only 0.98% annually (compared to the annual population growth rate of 1.93% during the same period). If adequate jobs cannot be arranged, this will lead to social instability. In many places, there has been an emergence of communist terror groups which feed on the insecurity of the unemployed population. Unless population growth is arrested, it will ultimately lead to the destruction of social peace which is so vital for a conducive business climate (Mishra, 2006).
Inequality

India is in many senses a highly unequal country and recent indications are that inequality is increasing. A commonly accepted measure of inequality is the Gini Coefficient. A Gini Coefficient of zero means that a country has absolute equality while a Gini Coefficient of 100 means that the country has absolute inequality. According to the Human Development Report, India's Gini Coefficient in the year 2004 (the latest year for which data is available) was 36.8.

Inequality need not always be a bad thing, at least to the extent that it acts as an incentive mechanism. However, if inequality is not due to factors of ability but more due to hereditary factors, then it ruins the incentive of a population to improve their lot. It seems that inequality in India is driven to a large extent by hereditary factors. India's oppressive caste system has ensured that millions are condemned to a life at the bottom of the social strata with no hope for deliverance. The government does not spend adequately on education which means that most of the primary education is in the private sector which is unaffordable for the weaker sections. The government has some affirmative policies in place in educational institutions but such policies are seldom useful since students from weaker sections are not adequately prepared for such institutions. Even after 60 years after independence, 26% of the population still remains below the poverty line, 20% of children are malnourished, literacy rate is 61%, and unemployment 7.8% (CIA, 2008).

Inequality can ruin social stability. Further, it means that the nation misses out on the opportunity to use the talents of people from the lower strata. Given the fact that the world is increasingly becoming dependent on talent, the nation loses a substantial amount by its inability to utilize its talents properly. In future, this might also slam the brakes on India's growth.

Legal System

India has a functioning legal system and an independent judiciary which is very rare among developing countries. However, the main pitfall is that the legal system is notoriously slow. This is a culmination of several factors such as dearth of judges, excessive holidays in courts, etc. The 120th Law Commission of India found out that India had only 10.5 judges per million population. To put this figure in perspective, the Commission noted that for every 1 million of its population, Australia has 58 judges, Canada has 75, United Kingdom has 51 and United States has 107.

It is commonly said that justice delayed is justice denied. Due to the slow legal system, it becomes hard to enforce contracts and this impedes business activities.
Data available from *Doing Business 2008 India*, a joint publication of the World Bank and International Finance Corporation suggests that on an average, it requires 1420 days of litigation to enforce a contract and costs 39.6% of the claim value to enforce a contract. The same study also shows that in a sample of 178 countries, India ranks 177 in the enforcement of contracts. In India, whenever banks fail to recover money from a defaulter, they seek the help of the local mafia in loan recovery. Such a practice, though abominable, is an outcome of the slow legal process. Ideally, in a capitalist economy, one would like the rule of law to prevail but this does not seem to be the case in many instances in India. Unless this is corrected, it may also act as a hindrance to growth.

**Conclusion**

In this article, we discuss the role of potential pitfalls in India’s story of redemption from poverty. Although the tone of this article might be negative, we do not doubt that India has a bright future ahead. Rather, the purpose of this article is to suggest that the story is not as rosy as the media or the Report by Goldman Sachs might suggest.

There are two Indias. One India is that of what the Goldman Sachs Report dwells on. The other India, to which we draw attention in this article is one with continued challenges of extreme poverty and inequality. Unfortunately, these problems continue to exist five decades after independence. None of the obstacles mentioned, however, are insurmountable and India’s leadership is well aware of at least some of them. However, the fact remains that not much has been done about these problems over the last decade. We hope that India’s leadership will act fast enough on these problems.

**References**


