

India in the Super-Cycle



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1. Overview: India responds to China's challenge

India: the world's largest democracy; home to its second biggest population, with 1.2bn people, half of whom are under 25; the world's 10th largest economy, with a GDP of USD 1.7trn, and fourth biggest when measured in terms of purchasing power. All of these are impressive statistics, but they only tell part of the India story.

India has an opportunity to regain its prominent position in the world economic order

India has an opportunity to regain its prominent position in the world economic order. Whether it succeeds will depend on how it deals with some of its challenges over the next few decades. And there are many of these. There are many opportunities, too. In this **Special Report**, we aim to enlighten the reader further as to the challenges and opportunities ahead. The report delves into key challenges and explores India's options for overcoming them in order to emerge as a world leader.

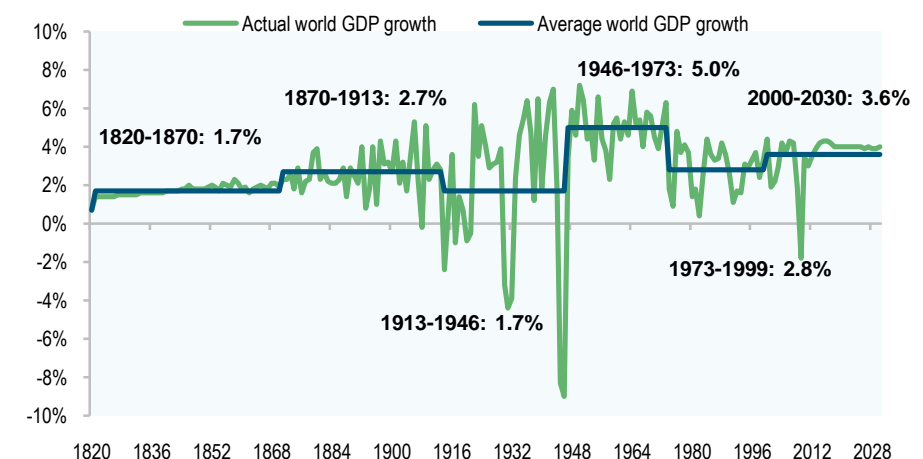
To put the report in context, it is a follow-up to **The Super-Cycle Report** published on 15 November 2010. There, we argued that the world economy is now experiencing its third super-cycle. This has been led by the rise of China, India and other emerging economies, shifting the balance of economic and financial power from the West to the East.

This report explores India's options for overcoming its challenges and emerging as a world leader

In that report, we defined a super-cycle as: "A period of historically high global growth, lasting a generation or more, driven by increasing trade, high rates of investment, urbanisation and technological innovation, characterised by the emergence of large, new economies, first seen in high catch-up growth rates across the emerging world."

The first super-cycle took place from 1870 to 1913. It had many features, including the emergence of the US economy, which moved from the number four position to become the world's major economy. The second super-cycle started after the Second World War and lasted until the early 1970s. Japan and the Asian tigers were the biggest winners in this cycle.

Chart 1: Super-cycles – world GDP growth



Sources: Angus Maddison, IMF, Standard Chartered Research

India in the Super-Cycle

India does not have an abundance of cash or commodities, but it has creative potential

In our view, Asia, the Middle East, parts of Africa, and Latin America all bear the characteristics of the current super-cycle, which could transform the world economy over the next few decades. Such transformations do not mean that growth will remain continuously strong over the whole period or that everything will go up all the time. The business cycle still exists, even in India and China, as do considerable short-term uncertainties across the globe.

The Super-Cycle Report projects that China is likely to overtake the US to become the world's biggest economy over the next decade, while India could become the world's third-largest economy by 2030. Moreover, India is likely to grow faster, on average, than China over the next two decades. We factor in a trend rate of growth of 6.9% for China, allowing for setbacks along the way, and of 9.3% for India, again taking into account the business cycle.

Indeed, India has many of the features that will enable it to emerge as a winner in the super-cycle. We believe the winners will be those countries which have cash, commodities, or creativity, or a combination of these factors. India does not have an abundance of cash or commodities, but it has creative potential.

India has a demographic dividend, but if jobs are not created it could become a disaster

This high growth path is by no means guaranteed, as there are challenges ahead which require urgent policy action. Whichever country one focuses on, the outcome depends on the interaction between policy, the fundamentals and confidence.

For India, the policy framework will be particularly important. India needs to overcome its regulatory burden and address its infrastructure needs. The initial focus, perhaps naturally, is on hard infrastructure, such as its transport system and its energy infrastructure. But its soft infrastructure is also key. There is a need for continued improvement in education, health care and skills as India provides the sizeable educated labour force needed for its private sector to grow. India's population is rising, and over the next 20 years the working-age population should increase by over 200mn. With half its huge population under 25, India has a demographic dividend – but only if it delivers the policies and economic growth needed. We think it will.

Table 1: Ten largest economies by decade

USD trn

	1990	USD trn	2000	USD trn	2010	USD trn	2020	USD trn	2030	USD trn
1	US	5.8	US	10.0	US	14.6	China	24.6	China	73.5
2	Japan	3.0	Japan	4.7	China	5.7	US	23.3	US	38.2
3	Germany	1.5	Germany	1.9	Japan	5.4	India	9.6	India	30.3
4	France	1.2	UK	1.5	Germany	3.3	Japan	6.3	Brazil	11.9
5	Italy	1.1	France	1.3	France	2.6	Germany	5.0	Japan	9.4
6	UK	1.0	China	1.2	UK	2.3	Brazil	4.9	Indonesia	9.0
7	Canada	0.6	Italy	1.1	Italy	2.0	France	3.9	Germany	8.2
8	Spain	0.5	Canada	0.7	Brazil	2.0	Russia	3.5	Mexico	6.6
9	Brazil	0.5	Brazil	0.6	Canada	1.6	UK	3.4	France	6.4
10	China	0.4	Mexico	0.6	Russia	1.5	Indonesia	3.2	UK	5.6

Sources: IMF, Standard Chartered Research



India's opening up could help transform the rest of South Asia and boost trade with the Middle East and Africa

If jobs are not created, the demographic dividend could become a disaster. With this in mind, one significant development this year was India's announcement in its annual budget that it planned to raise manufacturing's share of its economy from around 16% to 25% over the next decade. This is going to be crucial for job creation.

It also fits with our longer term view that there could be an Arc of Growth stretching from China, through India and into Africa. Moreover, it is not only about India opening up and growing its domestic market, although this is a key part of the story. It is also about India becoming more open as an economy. South Asia, as a region, contains one-fifth of the world's population. Yet in terms of trade, it is a closed region relative to others across the globe. If India opens up as a trading nation – and recent signs are that it is, gradually, doing so – then just as the opening up of China has transformed East Asia in recent years, India's opening up could help transform the rest of South Asia, and boost trade with the Middle East and East Africa as well. India's dynamic economy would start to have a greater global influence.

Growth potential

The key challenges are infrastructure needs, regulatory overhaul, environment and social issues

India's growth potential is huge. This is primarily because of its strong fundamentals. One way to look at this growth driver would be to compare it with China's. In the rest of this report, we have deliberately avoided focusing on China versus India. So I will discuss some aspects of this comparison in this introduction. Many have sought to compare India's and China's records since Deng Xiaoping opened up the Chinese economy in 1978. To me, this is an unfair debate because India opened up its economy in 1991 and then took more than a decade to really get going. So, in some respects, India's opening up may be two decades behind that of China.

In this sense, India has tremendous potential to catch up with China and the developed world. Based on our forecasts, India's nominal GDP could top USD 30trn by 2030, against its current level of around USD 1.7trn. By 2030, India could be 8.4 times bigger than it is today, while China is estimated to grow 4 times bigger and the EU and US 1.7 times. These figures highlight the fact that a super-cycle, with globalisation and an open trade and financial system, can be positive for all regions, although some will grow more than others. India should be one of the relative winners.

India also has issues with its budget deficit, not helped by spending on populist policies

Within India, there is often a hesitation to anticipate the ability of the economy to grow at a faster pace. Often, consensus views of India's growth potential turn out to be too pessimistic. Thus, trend growth has often been assumed to be lower than that which materialises. Perhaps this is because, on the ground, the challenges are all too apparent. Yet, despite this, the economy has continued to do well. Taking all of these factors together, our 9.3% projection for average Indian growth until 2030 may prove conservative. Trend growth, in my view, could even be nearer 12-13% per annum.

In addition to taking on board the positives, we have factored in the challenges and burdens, such as infrastructure needs, land reforms, regulation, and the environmental and social issues associated with a huge population and growing economy. India also has issues with its budget deficit, not helped by spending on populist policies as politicians try to woo the electorate. This is coming more into focus, as the attention to food, fuel and fertiliser subsidies this year has shown. Moreover, the trade deficit has always been an issue, particularly for an economy with a high import bill.

India's democracy, institutional framework and its strong record in macroeconomic management are other positives

Despite all of this, a positive for India is the balance of its economy, which is crucial for growth sustainability. China's economy is heavily skewed towards exports and investment. This is not an issue in India. Over the past five years, the average ratio of consumption to GDP has been 70%, of which private consumption made up 59%, investment 35%, and net trade (exports minus imports) -5%. This suggests that India runs on the twin engines of consumption and investment, and this has helped the economy to emerge relatively unscathed from the recent Western financial crisis. Indeed, investment has the potential to power India's economy over the next decade, supported by a high saving rate, currently at 34% of GDP. In fact, in terms of investment as a share of GDP, the gap with China has been closing in recent years.

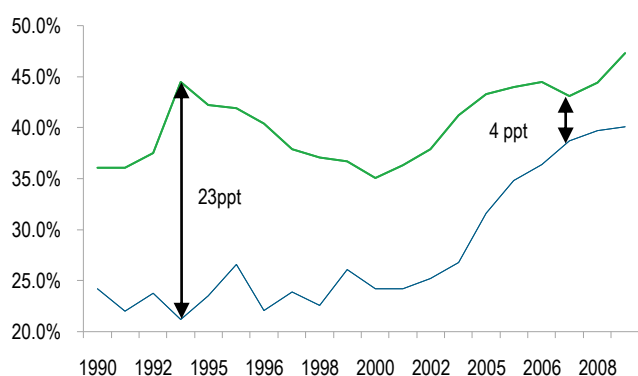
The next big plus for India is its institutional framework and its strong record in macroeconomic management. India's democracy, sometimes seen as a hindrance to economic development, may now start to be a real benefit. This is notwithstanding the need to address the corruption challenges highlighted over the last year. Its legal and property rights should also emerge as benefits, including the enforcement of intellectual property rights.

There remains a deep regional divide, with the relatively industrialised west and south contrasting with the poor rural hinterland

India has 3mn elected representatives, of which 1mn are women. The recent provincial elections, which unseated three incumbent state governments, prove that good economics can also be good politics in a democracy. The results showed that the people are now seeking policies that generate jobs for India's young population. In turn, this is forcing politicians to deliver change. Addressing corruption is a start. Some of the so-called 'sick states' in India recognise the need to achieve stronger growth to alleviate poverty and deliver jobs. Bihar, with its double-digit growth in recent years, is a case in point – it has moved from a lower to a higher growth path. Greater accountability may be part of the process, along with investment and social spending, including a focus on education.

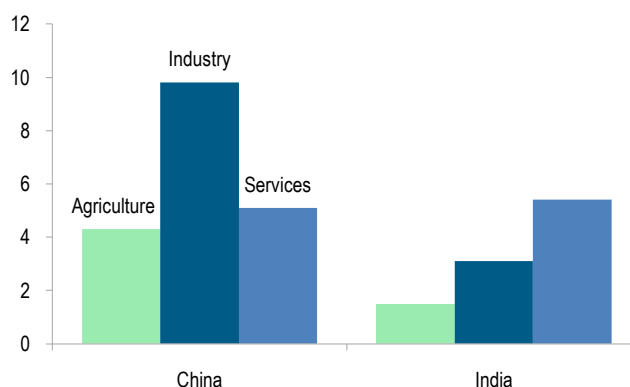
There remains a deep regional divide, with the relatively industrialised west and south of the country contrasting with the poor rural hinterland in the eastern and central regions, which is still largely dependent on agriculture and lacks good infrastructure. In fact, three western states – Karnataka, Maharashtra and Gujarat – account for more than half of the country's exports. The pick-up in growth rates in the poorer states in recent years indicates that a rebalancing of the regional divide is underway.

Chart 2: India's investment is catching up with China's
Investment as % of GDP



Sources: World Bank, Standard Chartered Research

Chart 3: China vs. India: sources of growth by sector
Annual growth in output per worker %, 1993-2004



Sources: Bosworth and Collins (2008), Standard Chartered Research

Currently, India has an inflation challenge, and the central bank is correctly responding to this by tightening policy

Macroeconomic policy

India's macroeconomic framework, with a flexible exchange rate and an independent central bank which is free to set interest rates, is a big positive when compared with China's. These attributes have helped to offset long-standing concerns about India's high fiscal deficit and government debt. Moreover, with faster economic growth, tax collection has been rising faster than government spending, while privatisation has helped the government to keep the deficit in check.

Currently, India has an inflation challenge, and the central bank is correctly responding to this by tightening policy. But in recent years, one-way expectations, as well as the strong economy, have contributed to rising asset prices. India needs to continue to make effective use of macro-prudential measures to keep its financial sector in check. But, like many emerging economies, its policy tools and institutions held up well during the crisis.

India's financial markets are some of the most liquid and sophisticated in the world but they need to be deepened further

Meanwhile, India's dynamic financial markets, which are some of the most liquid and sophisticated in the world, have enabled the country to absorb and accommodate large capital inflows, whether equity portfolio investment or foreign direct investment. Although its bond markets need to be deepened and broadened further, these advantages should be positive as the country seeks financing for its huge investment needs. The authorities need to view the role of foreign money and investment in a positive light as the economy opens up and the financial sector matures further.

The other key differentiators for India are what we have previously termed 'perspiration' and 'inspiration': more people working and spending, and the economy simultaneously moving up the value curve to higher-producing areas.

Specifically, perspiration refers to India's encouraging demographic dividend. India's working-age population will increase by 117mn over the next decade, compared with 4mn in China. In the following decade, starting in 2020, India will add 98mn to its working-age population, while China's will contract by 51mn. This is a big positive for India, certainly in comparison with China and many other countries. For instance, by 2020, the average age in India will be 29 years, compared with 37 in China and 48 in Japan. India also has a gender advantage over China, with a higher ratio of girls to boys in new births. India's relative youth and its favourable gender balance are likely to yield dividends in the coming years in terms of faster growth rates.

Table 2: Top 10 countries by population, million

Rank	Country	2010	Country	2030
1	China	1,354.2	India	1,484.8
2	India	1,214.5	China	1,462.0
3	United States	317.7	United States	370.0
4	Indonesia	234.6	Indonesia	284.5
5	Brazil	193.3	Pakistan	244.1
6	Bangladesh	167.7	Nigeria	231.0
7	Pakistan	166.6	Brazil	222.8
8	Nigeria	156.1	Bangladesh	219.6
9	Russia	140.4	Mexico	135.2
10	Japan	127.0	Russia	126.5

Sources: UN, Standard Chartered Research

We expect productivity to rise rapidly as manufacturing and services employment take the place of agriculture, people move to cities, and India's famed entrepreneurial spirit and creativity and its growing pool of English speakers and graduates drive growth in the private sector.

A middle-income country

We expect productivity to rise rapidly as manufacturing and services employment takes the place of agriculture

While it is poor now, India can become a middle-income country over the coming decade, its growing middle class driving a dynamic, domestically driven economy. This would make India an attractive market for companies to sell into, both from the West and emerging markets (EM). Consumer spending on durables is already at a tipping point. For instance, the proportion of Indian households with refrigerators stands at 18%, compared with 48% in China. The ratio for washing machine ownership is 18% in India versus 66% in China, and for television ownership it is 56% in India compared with 80% in China. The contrast in automobile ownership is more dramatic and perhaps best portrays India's growth potential – in the US, there are 765 cars for every 1,000 people, in China there are 128 cars, and in India, the number is only 9.

Urbanisation is likely to be another key driver of growth in India as more of its population moves from agriculture to take up manufacturing and service jobs in the cities. Last year, a report by *McKinsey*¹ suggested that India's urban population would rise from 340mn in 2008 to 590mn by 2030, and that by then, Mumbai and Delhi would be two of the world's five largest cities by population. Mumbai's economy alone would be worth USD 265bn.

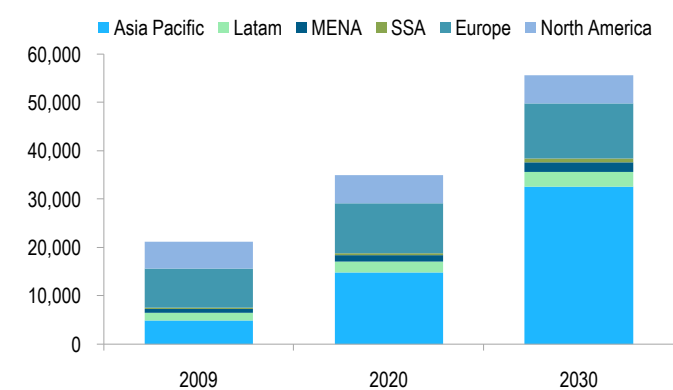
India can become a middle-income country over the coming decade, driven by a growing middle class

The services sector is already important for India, and its share will grow further. India is already an IT superpower. Over the last decade, IT has contributed about 45% of the incremental urban employment. IT exports rose from USD 2bn in FY09 to USD 47bn in FY10. By 2020, exports could rise threefold to USD 175bn.

Furthermore, India has all the potential to move further up the value curve, with its pool of English speakers, technical education, links with Europe and North America, free-trade agreements with Asia, a head-start in IT and software, and enabling legislation. Areas talked about as potential sources of growth include tax consulting, financial services, editing and publishing, law, accountancy and design.

Chart 4: Spending of the middle class USD bn

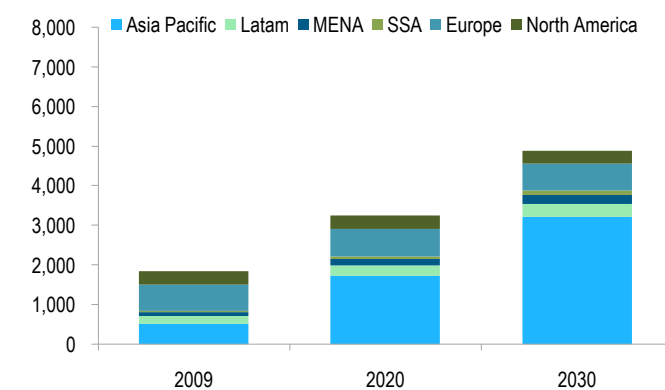
PPP dollars



Sources: OECD, Standard Chartered Research

Chart 5: Size of the middle class, mn

Daily per capita incomes of USD 10-100 in PPP terms



Sources: OECD, Standard Chartered Research

¹ India's urban awakening: Building inclusive cities, sustaining economic growth; April 2010

Industry can grow faster, driven by rising infrastructure spending, particularly in the power, road and telecom industries

Likewise, industry has the potential to grow faster. This is likely to be driven by rising infrastructure spending, particularly in the power, road and telecom industries. More inclusive growth as purchasing power in rural areas increases, and an overall rise in per-capita income beyond inflexion points (where demand for more expensive products grows), could trigger even faster spending on consumer durables, fuelling growth in domestic industries.

Then there are the aspects of entrepreneurial spirit and creativity, which have the potential to make India a key competitor in world markets. A recent *United Nations* study² showed that the majority of global research and development (R&D) investments used to go to the OECD countries, and thus to the developed world. This is now changing, with a significant amount of corporate research and development spending going to China and India. India's cost advantages and growing number of science and technology graduates should make the country attractive for R&D investment.

Challenges

India needs to attract foreign capital to fill the funding gap

There are, of course, real obstacles to India achieving its potential. India's growth is particularly vulnerable if infrastructure investment is not rapid enough. India needs to attract foreign capital to fill the funding gap. It is estimated that USD 1trn needs to be spent on infrastructure over the next five years. Policy change is necessary to ensure the right framework for development. India's bureaucracy – and the corruption that often accompanies it – needs to be overhauled to make decision-making more efficient.

Public health remains an issue, and growing inequality may jeopardise future social stability. India, like the rest of the world, faces a huge resource challenge. Even with agricultural reform and investment, India will struggle to feed an increasingly affluent population, especially against a backdrop of scarce water resources. Energy demand will explode: we expect primary commercial energy consumption to grow at almost 6% a year over the next 20 years. And as energy prices rise, India will face a rapidly growing import bill.

India's growth should create global opportunities: it will become a big market for Western and emerging market firms

Furthermore, India is vulnerable to high oil prices, as evidenced by its trade deficit. However, we expect its trade with the rest of the world to expand rapidly as industry gains in importance and becomes more competitive over the coming years. If India opens up as we expect, this could boost two-way trade with the rest of South Asia, East Africa and the Middle East, much as China boosted trade across East Asia. And, like China, India's growth should create global opportunities: it will become a big market for Western firms, as well as emerging companies from the East, to sell into.

This report goes into this unfolding story in detail. Chapter 2 provides a factsheet of key information on India. Chapter 3 provides a series of maps to help put the economy and country in perspective.

The country's macroeconomic structure is covered in Chapter 4, with a particular focus on the need to strike the right balance between industry and services during the super-cycle. The demographic boom is covered in Chapter 5: a growing population, rising jobs and falling dependency ratio are the drivers. The middle class and consumerism are the focus of Chapter 6, highlighting the sheer scale of the rise in incomes and the growth of the middle class.

² UNESCO Science Report, 2010; 10 November, 2010



Chapter 7 focuses on some of the challenging areas for India, which have the potential to be a big plus if addressed properly: education and health; employment; urbanisation; and food security.

The need to address the infrastructure challenge is the focus of Chapter 8. Linked into this, the subject of land resources is discussed in Chapter 9. Limited land resources and arcane laws make land acquisition a contentious political issue.

Above, I made reference to perspiration and inspiration. Part of the inspiration aspect is covered in Chapter 10, which looks at innovation and entrepreneurship. Chapter 11 looks at India's institutions, a big plus which should not be underestimated.

The need for India to integrate with the global economy through greater exports and increased capital inflows is the subject of Chapter 12. Chapter 13, meanwhile, explores the need for further financial liberalisation, with the aim to deepen and broaden India's financial markets in order to facilitate those inflows and efficiently channel domestic savings into infrastructure and industry.

The sustainability of India's growth comes into focus in Chapter 14, which looks at ways to address the contentious issues of inequality – social, economic and inter-regional. Finally, Chapter 15 explores options for India to maintain its energy security and mitigate the impact of rapid economic development on its environment.

*India is tomorrow's story, and
today's opportunity.*

In conclusion, India is tomorrow's story, and today's opportunity. Although it is important to keep the challenges in mind, India has a phenomenal opportunity to accelerate and catch up. Despite challenges, good economic fundamentals – including a growing domestic market, demographics, strong democratic institutions, a record of stable macroeconomic management, deep financial markets and a growing, more productive and creative workforce – can all ensure that India emerges a winner in the current global super-cycle.



2. India factsheet

- India is home to 17% of the global population, but covers only 2.4% of the world's geographical area. India has approximately 1.2bn people living in 28 states, seven Union Territories, 640 districts, 5,161 towns, 384 cities and close to 650,000 villages.
- India has 50 cities with populations of more than 1mn. Cities house only 30% of the total population, but they contributed close to 63% of GDP in 2009. India's current urbanisation rate is significantly lower than South Korea's 82%, China's 46% and Indonesia's 42%. 25% of the country's urban dwellers live in slums.
- 50% of India's population is below 25 years old now, and the median age by 2030 will be 31, far below China's 42 and Japan's 52. India is likely to add 240mn people to its working-age population over the next two decades – almost 30% of the incremental global working-age population.
- India's average 10-year growth rate has exceeded the global, emerging-markets, and ASEAN-5 growth rates for the past four decades.
- Per-capita income in India increased from USD 100 to USD 500 over a period of 33 years (FY71-FY03), and then took only five years to double from USD 500 to USD 1,000 (FY04-FY08). India's middle class is likely to expand from 5-10% of the population today to 90% by 2039, according to OECD projections.
- India has already become the world's second-fastest-growing market for automobiles, but car penetration is still very low, at 8.7 per 1,000 people.
- India's services sector, with a 55% share of GDP, has grown faster than 10% for the last five years, contributing over 33% of exports and providing close to 25% of total employment.
- India had 18.69mn internet subscribers in 2010 and close to 100mn internet users (the fourth-highest in the world). However, the penetration rate, at 8.5%, is much lower than those of China (31.6%), Brazil (34.4%), the Philippines (29.7%) and Nigeria (28.9%). According to a survey done by online auctioneer eBay, 747 rural towns in India are showing active online buying and selling trends.
- The ratio of merchandise exports to GDP has climbed from 6% in FY90 to 15% now. The country has 130 operational Special Economic Zones (SEZs), which accounted for 66% of manufactured exports and 21% of IT exports in FY10.
- 11.4mn Indian overseas workers remitted USD 55bn in 2010, making India the world's largest recipient of remittance flows.
- There are now 56 Indian companies on the Fortune 2,000 list, and three of the world's top 10 outsourcing companies are from India. India also ranks third in terms of attractiveness as a destination for FDI. Between April 2000 and February 2011, India received USD 128.7bn of FDI inflows. However, 35% of these inflows were received by one state – Maharashtra.
- India has more than 26mn SMEs, which contribute 45% of industrial output and 40% of exports and employ 64mn people. Between FY03 and FY09, the total number of new companies registered rose by 170%. 57% of these companies were in emerging sectors like information technology, finance, insurance, construction and communications.
- India created about 10mn jobs every year between FY00 and FY05. In the next two decades, the pace of job creation needs to rise to 13-15mn per year in order to bring the unemployment rate down to 5%.
- More than eight out of 10 people currently work in the unorganised sector, either as self-employed workers (44%) or casual labourers (39%). More than 80% of India's females aged 15-59 are not currently in the workforce, and 40% of the country's population is engaged in seasonal activities with no permanent income.
- India loses 2ppt of GDP growth every year because of inadequate infrastructure. Only 2% of roads are national highways, which carry 40% of the traffic. Average turnaround time in Indian ports is 4.38 days, and the peak power deficit is still about 12-13%.



- India's literacy rate improved significantly from 48% in 1991 to 74% in 2009. However, India has a low primary enrolment rate and a high dropout rate. Also, only 2.2% of the literate population has either technical or vocational training.
- In the last 60 years, India's life expectancy has risen from 33 to 64 years, and the infant mortality rate (IMR) has fallen from 148 to 53 per 1,000. However, the IMR is still higher than China's 19 and Indonesia's 25. Public spending on health, at 1.1% of GDP, places India in the bottom 10 in the world.
- Although India has a poor ranking of 119 in the Human Development Index (HDI), it ranked 6th in terms of average annual HDI growth over the 1980-2010 period, showing substantial improvement.
- India has 455mn people below the poverty threshold of USD 1.25 per day, while it has 69 billionaires (the third-highest number in the world) with wealth totalling approximately 25% of GDP.
- Bihar, traditionally a laggard state, has registered more than 10% average growth in the recent past, but its per-capita income is still one-quarter that of a prosperous state like Punjab.
- India's net sown area has stagnated at around 140mn hectares since the 1980s. Meanwhile, per-capita water availability has declined to 1,720.29 cubic metres from around 5,000 cubic metres in 1951.
- With a market capitalisation of close to 85% of GDP, the Bombay Stock exchange (BSE) is the eighth-largest stock market in the world and has the largest number of listed companies (5,067).
- The Indian rupee (INR) had daily average turnover (in the onshore and offshore markets combined) of USD 44.7bn in 2010, ranking 15th in terms of its share of the average daily turnover of global FX markets.
- Only 2% of Indian households have a credit card, 1% invest in the equity market, and 5% hold insurance policies. Loans for housing are equal to only 6% of GDP, while loans for consumer durables and education are less than 1% of GDP.
- About 12% of Indian villages have access to formal finance, although close to 40% of bank branches are in rural areas. Also 145mn Indian households are excluded from banking services. India has only 6.6 bank branches per 100,000 people, against the OECD range of 10-69. 45% of bank credit and 55% of deposits originate in the six largest cities.
- India is the largest democracy in the world, with 3mn elected representatives, of which 1mn are women.
- It is estimated that the central and state governments combined employ an army of about 10mn people, although only about 80,000 of them are in decision-making roles. The Indian Administrative Service, responsible for guiding the bureaucratic machinery, numbers only about 5,000.
- There are over 31mn pending cases in Indian courts being handled by 14,576 judges (10.5 judges per 1mn population). It could take 320 years to clear this backlog unless the judicial process is expedited.
- 90% of India's coal deposits and 80% of its other mineral deposits are located in tribal areas. Population density in mining areas is 329 persons/square km, compared to 137 in China and 20.5 in Brazil. India's forest cover is now only 7.5% of its total area after close to 95,000 hectares of forest land was diverted for mining between 1980 and 2005.
- According to the International Energy Agency (IEA), India consumed only 0.54 tonnes of oil equivalent (toe) per person in 2008, compared to the world average of 1.83. India's CO2 emissions are around only 4% of the global total.

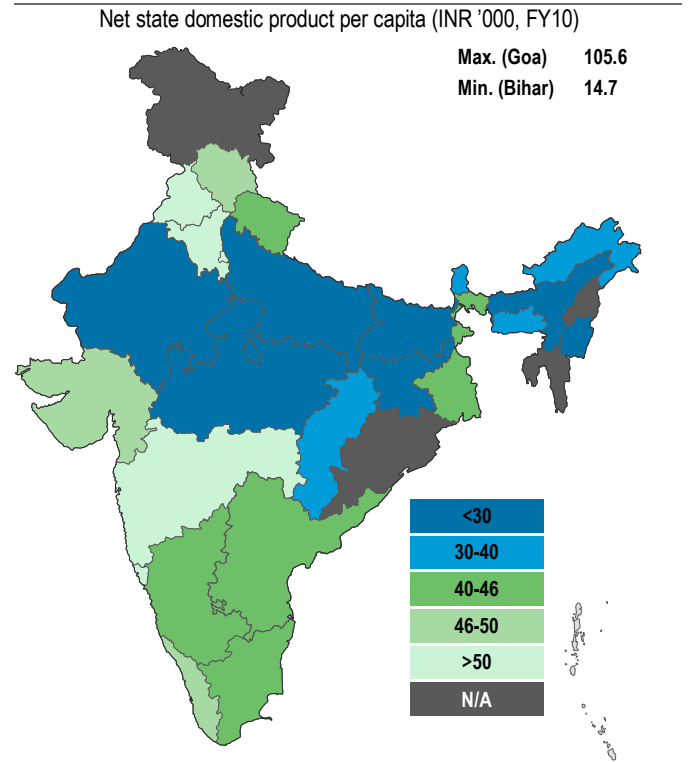
3. India: Mapping the country's diversity

Figure 1: A political map of India



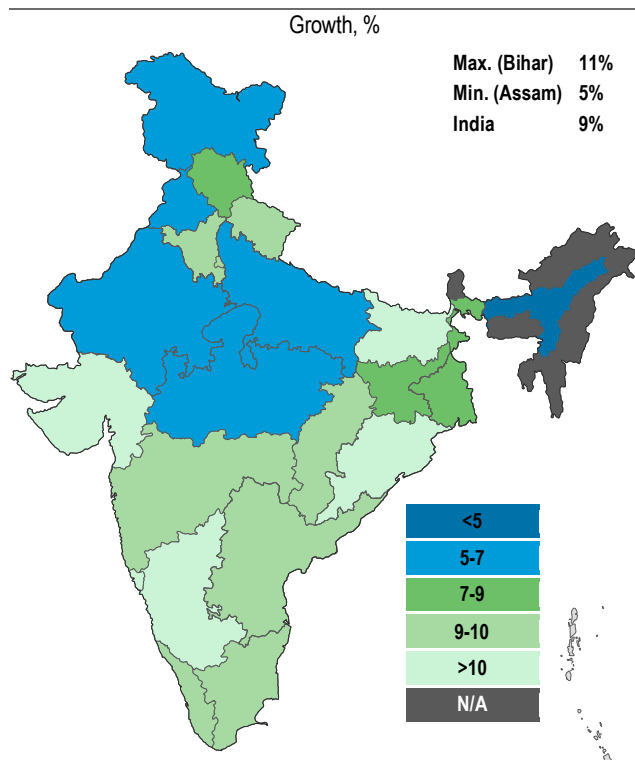
Source: Standard Chartered Research

Figure 2: The prosperous south and west



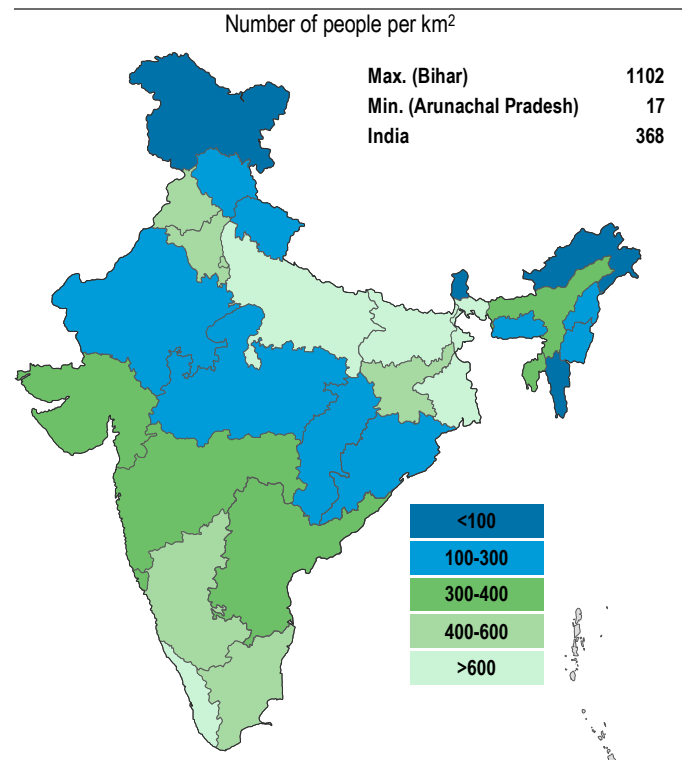
Sources: CEIC, Standard Chartered Research

Figure 3: Average growth rates between FY05 and FY08



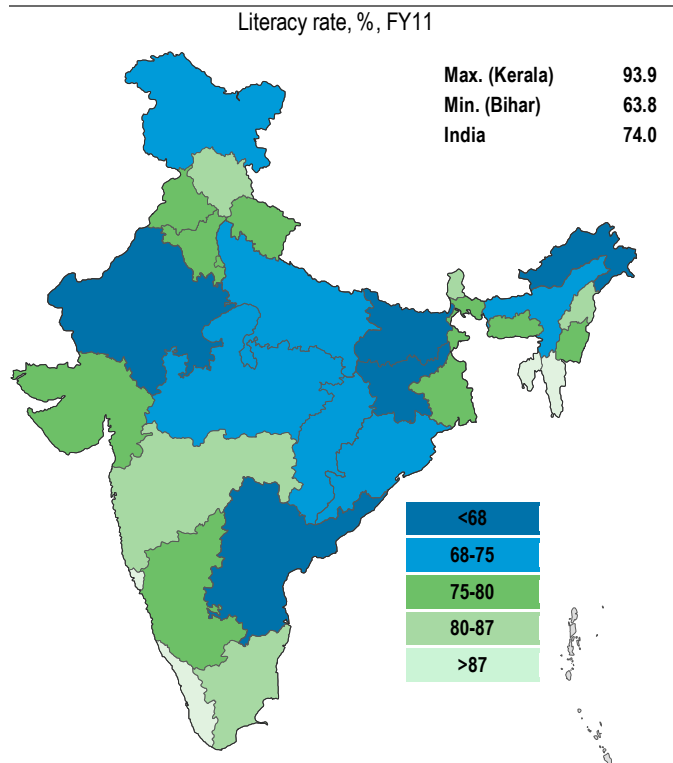
Sources: RBI, Standard Chartered Research

Figure 4: Population density is high in parts of the north and east



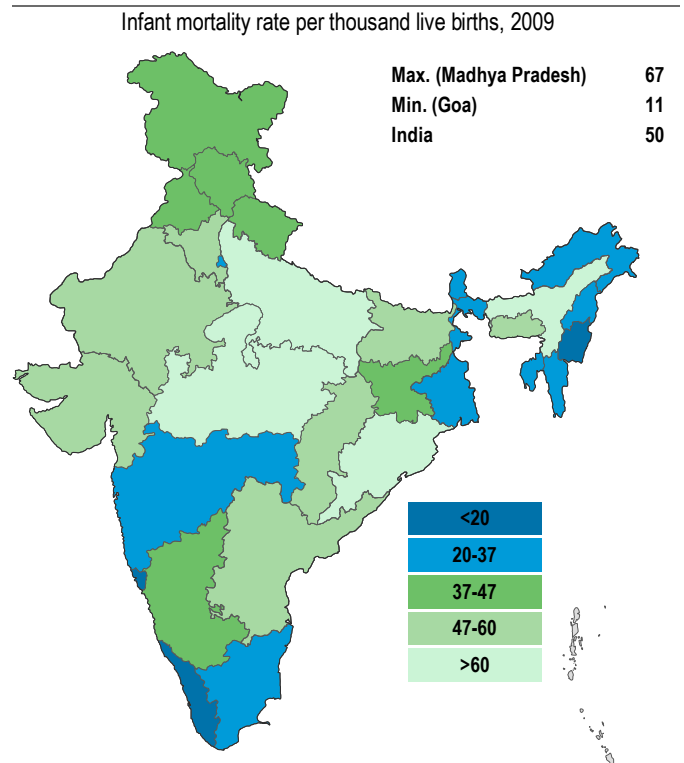
Sources: Census 2011, Standard Chartered Research

Figure 5: South and west are more literate



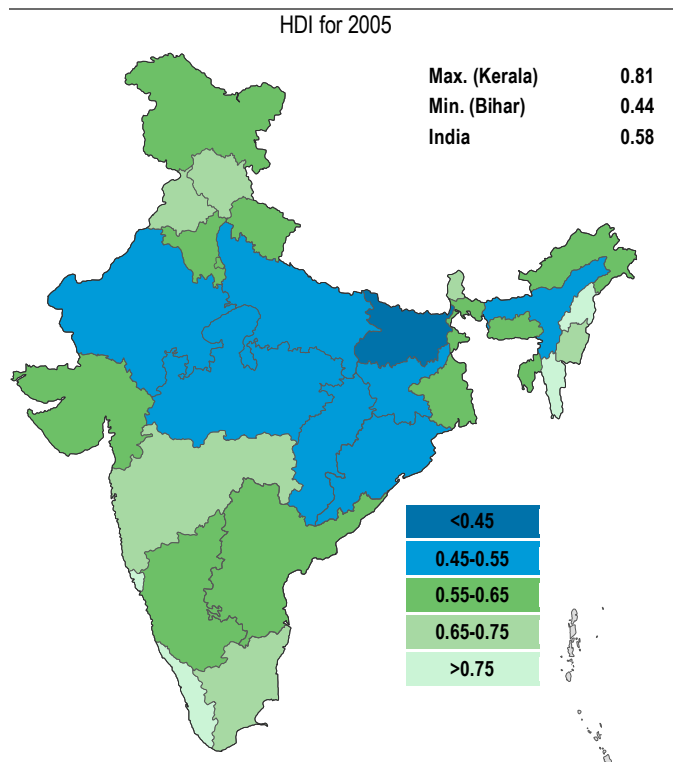
Sources: Census 2011, Standard Chartered Research

Figure 6: Infant mortality patterns are more diverse



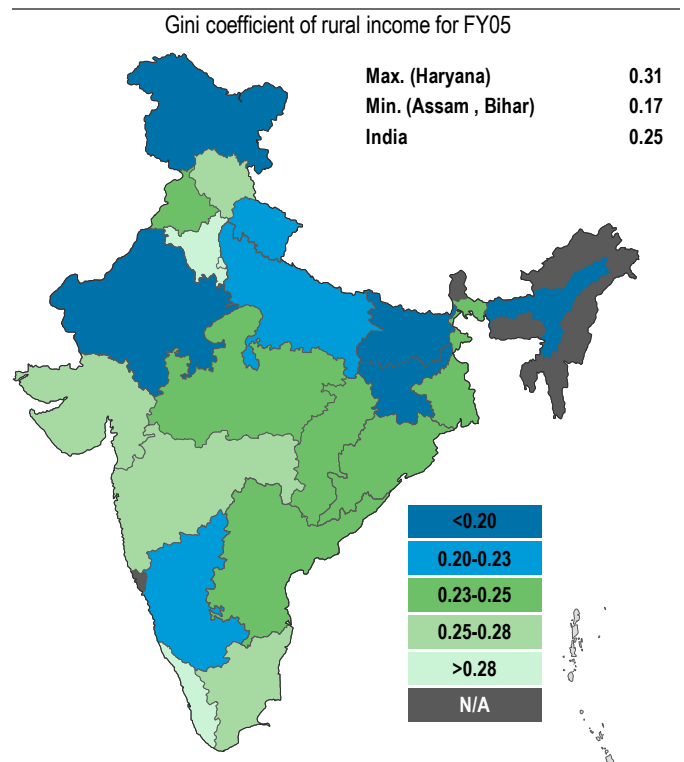
Sources: Ministry of home affairs, Standard Chartered Research

Figure 7: Human Development Index pattern matches the income profile of states



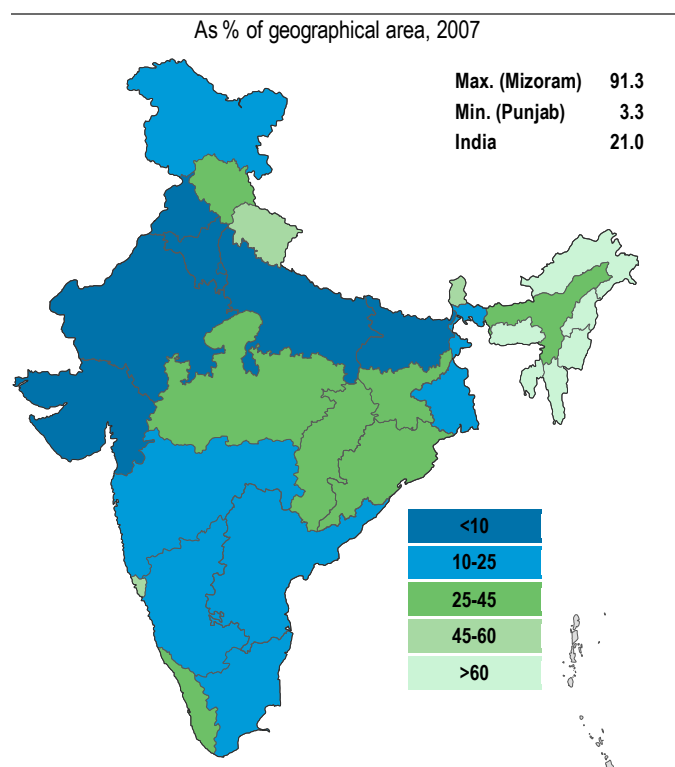
Sources: Govt. of Meghalaya, Standard Chartered Research

Figure 8: Income inequality is lower in poorer states



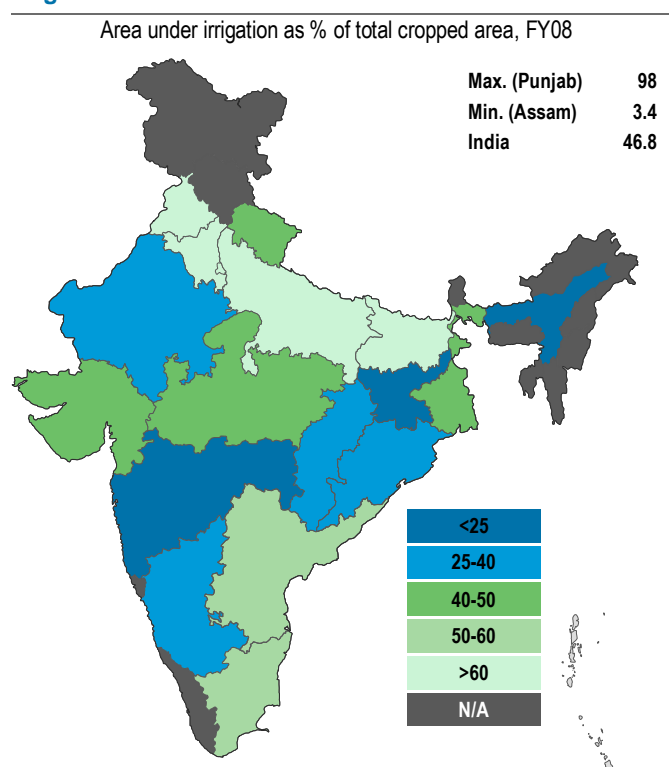
Sources: Planning Commission, Standard Chartered Research

Figure 9: Forest cover is concentrated in central region



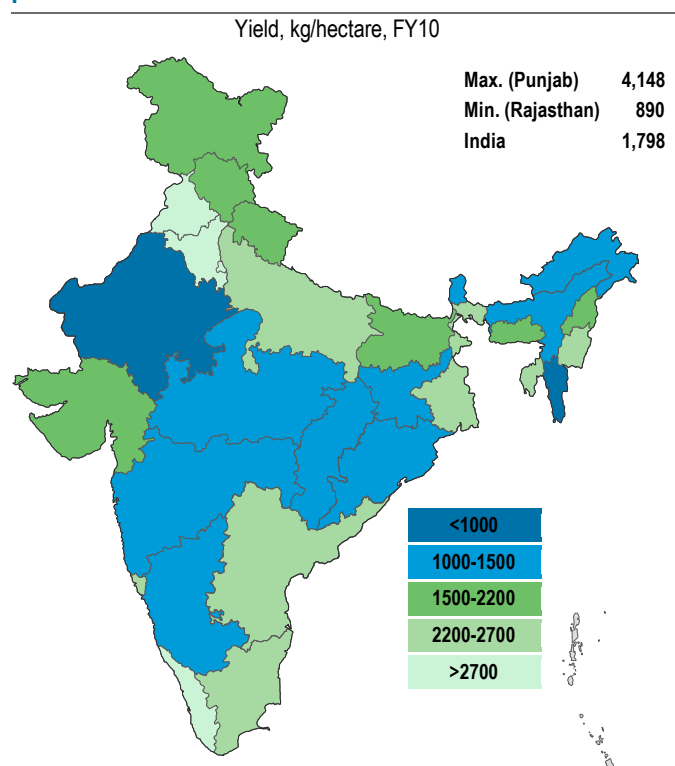
Sources: Forest survey of India, Standard Chartered Research

Figure 10: Northern and western river basins are better irrigated



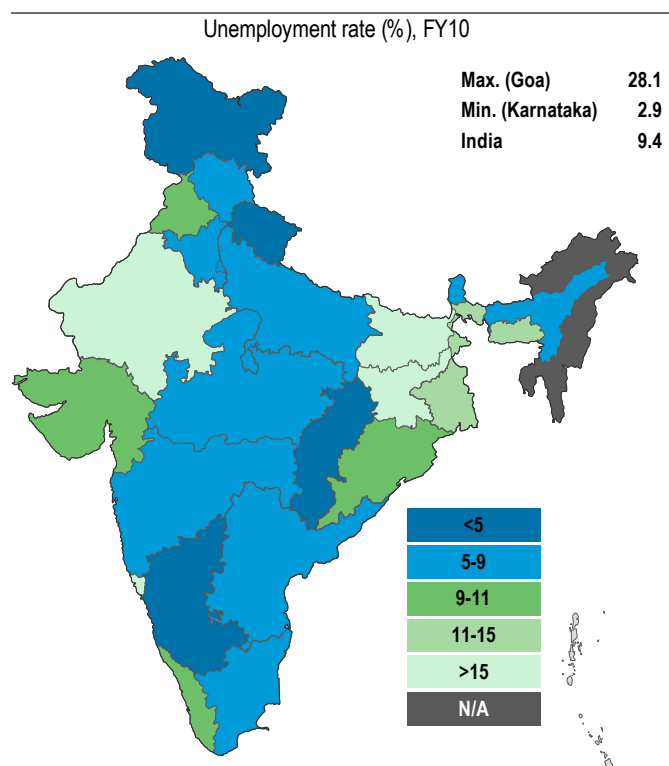
Sources: Department of Agriculture and Cooperation, Standard Chartered Research

Figure 11: Productivity pattern matches irrigation potential



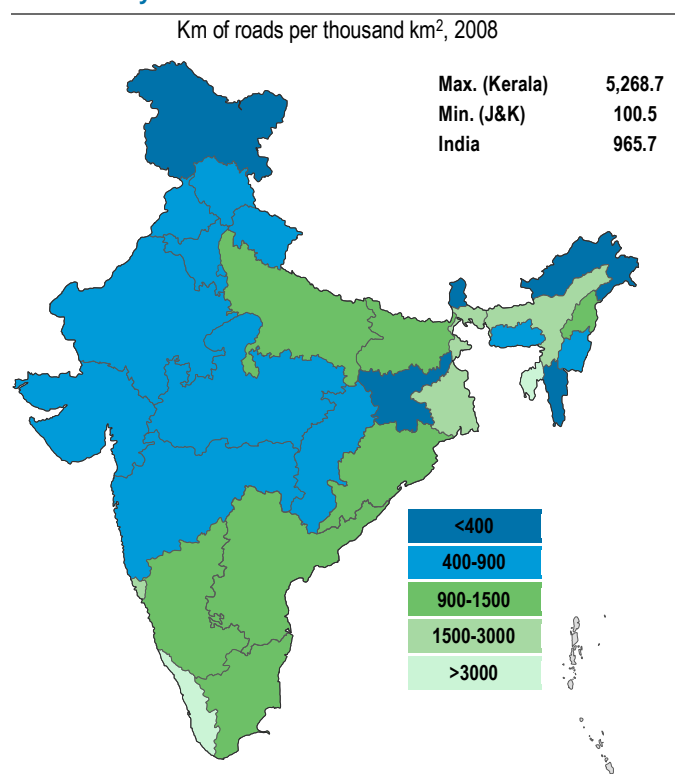
Sources: Department of Agriculture and Cooperation, Standard Chartered Research

Figure 12: Unemployment does not correlate with affluence levels



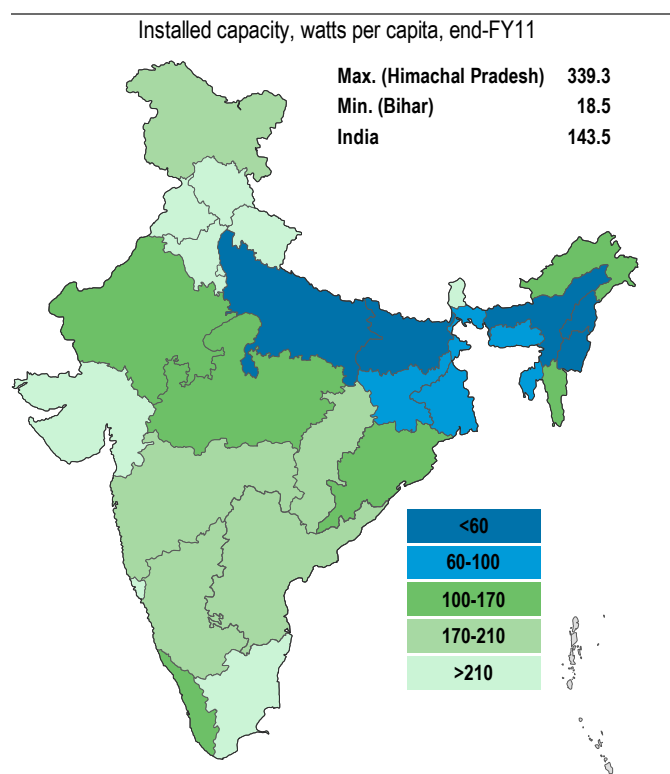
Sources: Employment Survey 2009-10, Standard Chartered Research

Figure 13: Northern, western and central India lag in road connectivity



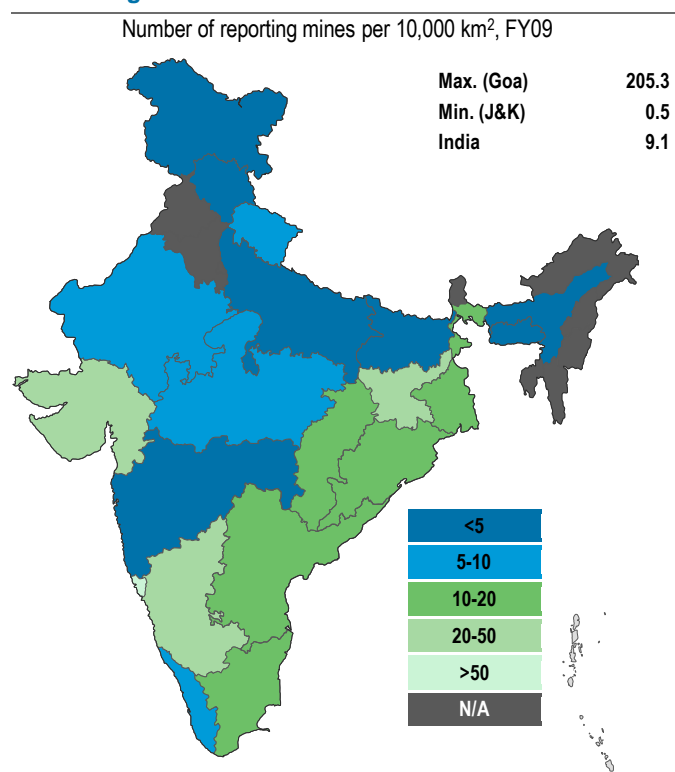
Sources: MOSPI, Standard Chartered Research

Figure 14: Power availability is a precondition for economic success



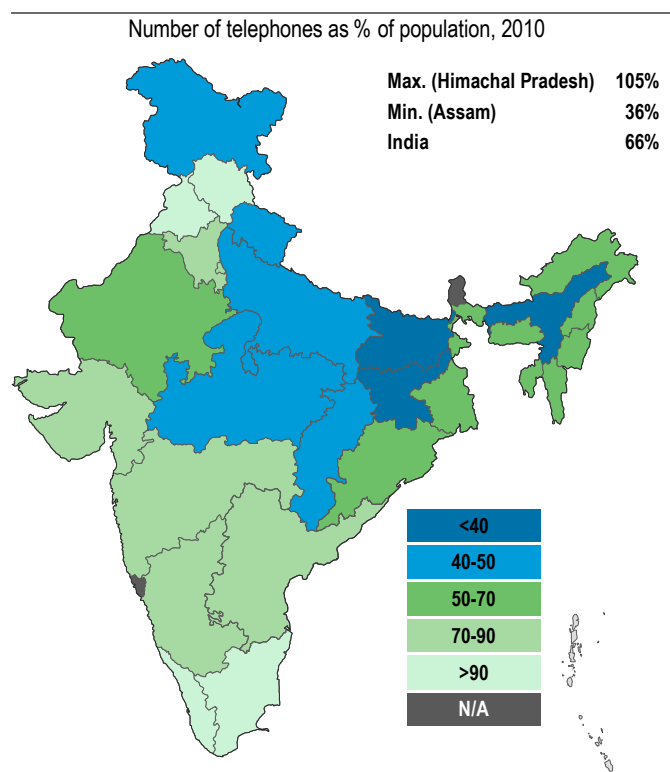
Sources: Ministry of Power, Standard Chartered Research

Figure 15: Mineral availability is concentrated in the eastern region



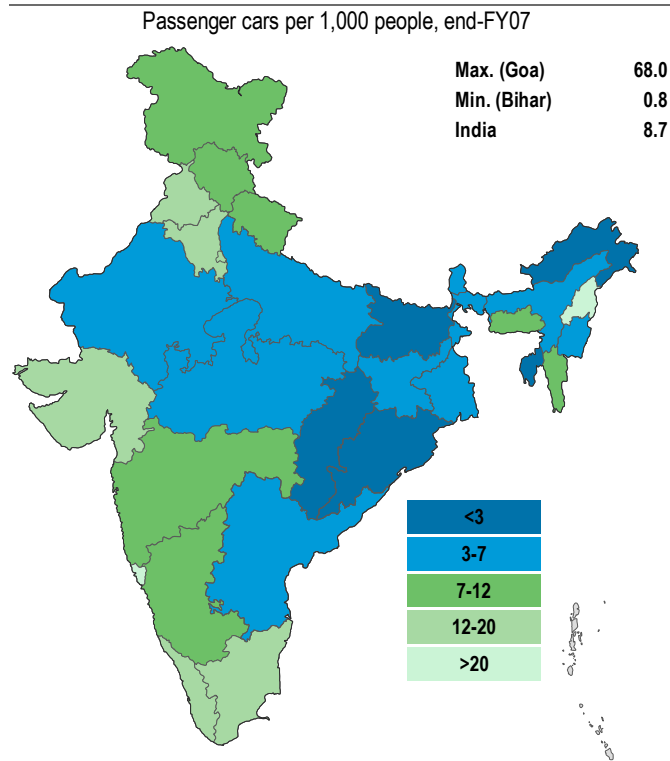
Sources: Indian Bureau of mines, Standard Chartered Research

Figure 16: Teledensity is rapidly increasing



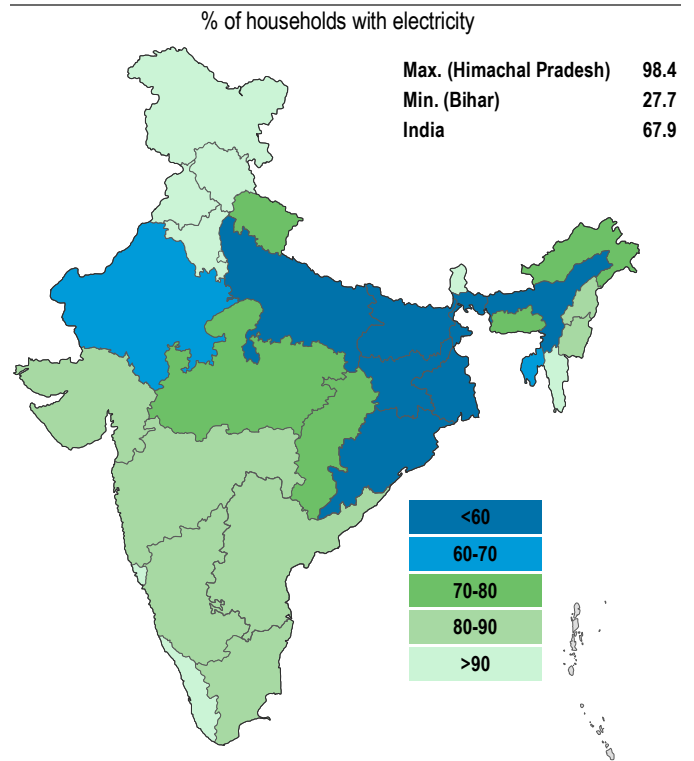
Sources: TRAI, Standard Chartered Research

Figure 17: Extremely low penetration of cars



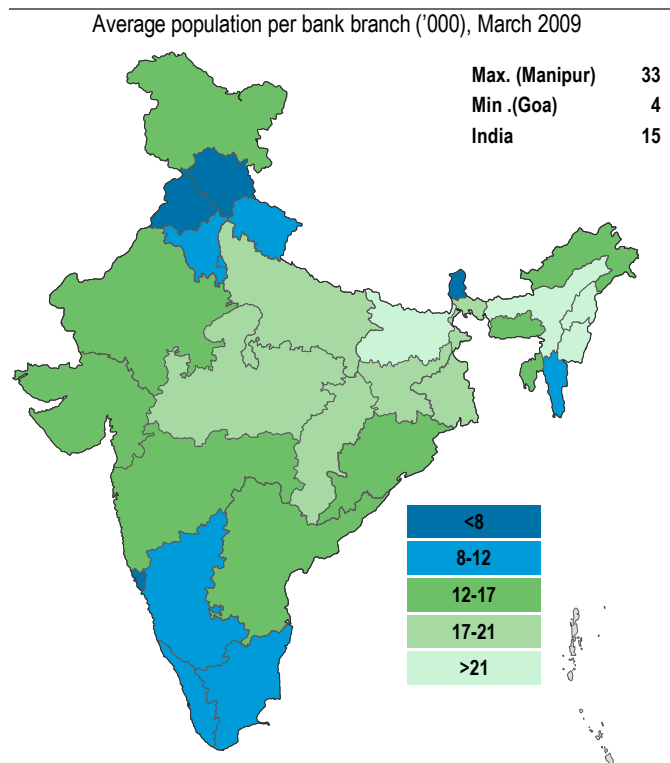
Sources: Office of State Transport Commissioners, Standard Chartered Research

Figure 18: Eastern India lacks adequate power supply



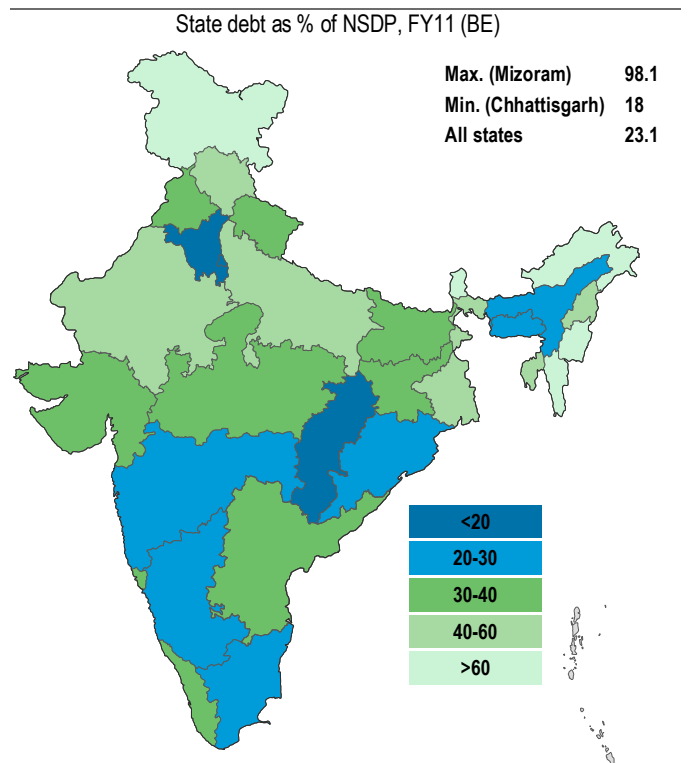
Sources: NFHS 2007, Standard Chartered Research

Figure 19: Banking penetration is higher in richer states



Sources: RBI, Standard Chartered Research

Figure 20: Southern states have managed debt better



Sources: RBI, Standard Chartered Research

4. Macroeconomic structure: Striking the right balance

- India will need to strike the right balance between industry and services growth during the super-cycle
- Infrastructure build-up is likely to push investment rate to 40%, balancing consumption
- Flexible market rates and prudential policies are key to sustaining macro stability

Increasing the share of organised manufacturing is imperative to achieving a better balance between industry and services

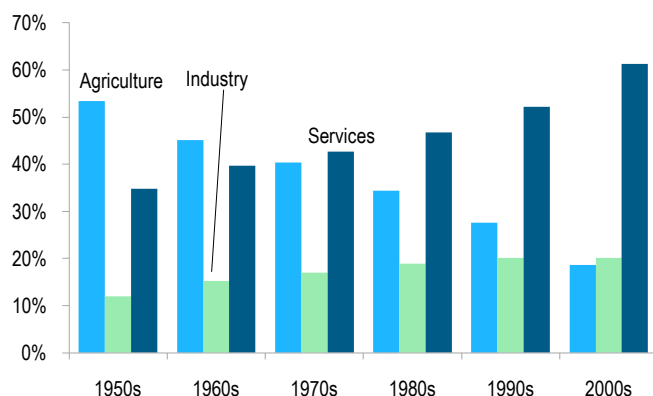
India's economy has undergone a structural change since the economic reforms introduced in the early 1990s. Agriculture as a share of GDP has fallen to 15% from 32% in 1990, while the services sector has grown to 57% from 43%. However, industry's share of GDP has remained constant in the 25-28% range, and employment remains lopsided, with 57% of the workforce engaged in agricultural activities and just 13% in industry (the rest are in services).

Although the share of industry has remained stagnant, capital-intensive products, which are higher up the value chain, have started to dominate. In FY11, more than 50% of India's industrial growth came from the production of machinery and transport equipment. It is important to sustain growth in these high-value items to achieve the government's target of increasing the GDP share of manufacturing from 16% to 25%, with a larger share for the organised sector. At the same time, the expected demographic trends of the next two decades suggest that India's cheap labour advantage will not fade anytime soon. Labour-intensive industries such as textiles and food processing can also flourish if appropriate reforms usher in labour-market flexibility. This will be necessary to keep the unemployment rate low in an economy with a rapidly expanding workforce. The services sector, which recorded growth of more than 10% between FY06 and FY10, is well diversified. Information technology and communication – the two services which have brought India global recognition – make up just 14% of the overall services sector. This diversification increases the resilience of services-sector growth.

Pushing the investment-to-GDP ratio to 40% will be necessary to strike the right macro balance without increasing India's dependence on external financing

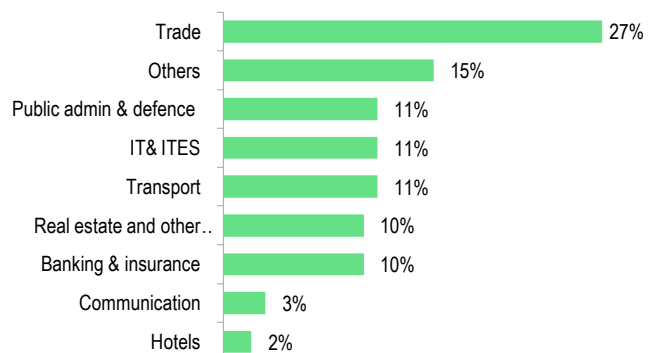
Looking at GDP growth from the demand side, we believe India is on its way to achieving the right balance between consumption and investment, which will ensure that growth is driven by two engines. India's investment-to-GDP ratio was languishing at just above 20% when the country embarked on economic reforms in the early 1990s. However, in the last 20 years, India has achieved average investment growth

Chart 1: Services dominate, industry's share stagnates
% of GDP



Sources: CEIC, Standard Chartered Research

Chart 2: A diversified mix of services
% share of India's overall services sector



Sources: Economic Survey FY11, Standard Chartered Research



of close to 11% p.a., and the investment-to-GDP ratio has risen to 35%. The emergence of the private sector as a dominant player in the economy (real private investment grew at an annual rate of 28% between FY02 and FY07) has contributed strongly to this investment growth. We believe this trend is likely to continue, with an emphasis on infrastructure investment and better exploitation of the complementarities between public and private investment. However, a larger share for the private sector would induce more cyclicalities in the growth process. In our view, a 40% investment-to-GDP ratio would provide the right macroeconomic balance. Domestic savings have grown hand in hand with investment, and the need for external finance has generally been limited to less than 3% of GDP, reducing India's exposure to volatile capital flows.

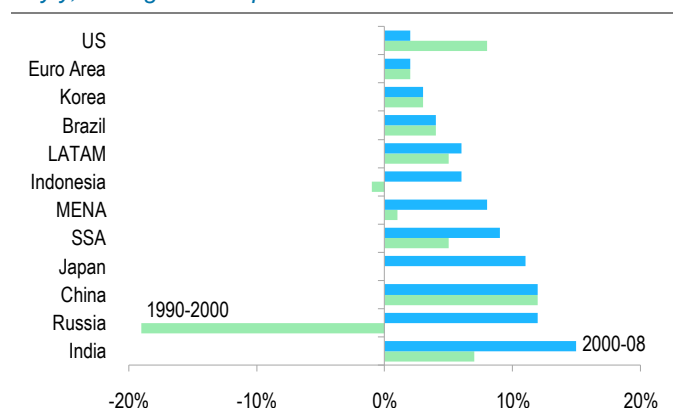
Domestic demand is still the dominant component of GDP, but the gradual opening of the economy has pushed up the ratio of exports (including software exports) to GDP from 7% in FY90 to 20% now. Strong import demand has generally overshadowed exports, but net exports contributed positively to economic growth in FY10. Capital-intensive exports like engineering goods and refined petroleum products now dominate India's exports. Maintaining export momentum is critical to limiting the vulnerability created by rising imports and to providing an additional driver of industrial growth.

Flexible market rates, gradual opening up of the economy and prudent fiscal and monetary policy should complement the balanced macro structure

Macro and financial stability also depend on policies set by the central bank and government. Flexible exchange and interest rates in the post-reform era have left the economy less prone to asset-price bubbles, even as the capital account has gradually been opened up. The Reserve Bank of India (RBI), as an independent central bank, has demonstrated its ability to steer the economy through cycles and the global financial crisis. Fiscal consolidation was achieved before the crisis, when the deficit was narrowed to 2.5% of GDP. Fiscal stimulus is now being gradually withdrawn, and the government's resolve to stick to its fiscal consolidation roadmap augurs well for India. However, there is no room for complacency, as close to two-thirds of government spending is still for unproductive purposes. We believe that a balanced macro structure, if accompanied by prudent macro-management policies, will play a key role in sustaining India's high growth rates over the current super-cycle.

Chart 3: Investment growth powers ahead

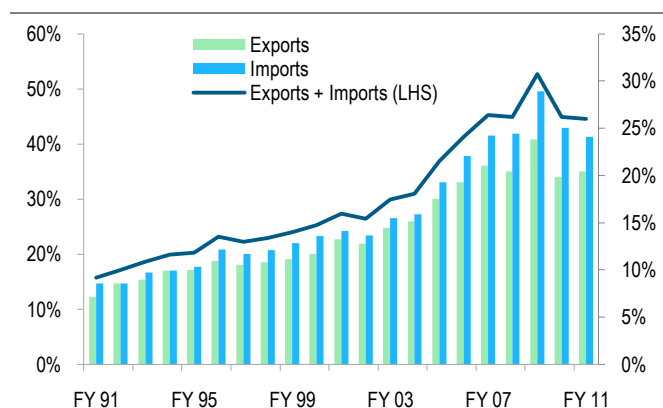
% y/y, average for the period



Sources: CEIC, Standard Chartered Research

Chart 4: Gradual opening up of the economy

% of GDP



Sources: Economic Survey FY11, Standard Chartered Research



5. Demographics: Young and vibrant

- Growing working-age population, lower dependency ratio are driving the demographic boom
- India to contribute 28-30% of the world's incremental working-age population in the next two decades
- Population growth is concentrated in less developed states; policies are needed to unleash the demographic dividend

India's estimated median age of 31 by 2030 is far below China's 42 and Japan's 52

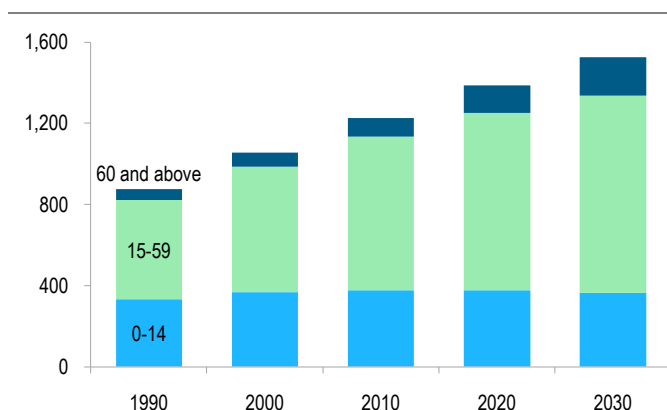
One factor driving the current super-cycle is the vast number of people in emerging countries entering the global workforce. India, which is expected to add 162mn and 136mn people to its population in the decades to 2020 and 2030, respectively – equivalent to two Japans or one Indonesia – is likely to emerge as a winner in this super-cycle. India is likely to overtake China as the world's most populous country by 2021, according to UN estimates.

However, India's chance to become a superpower is not defined only by the massive scale of its population growth. In fact, India has added more people (170-180mn) in each of the past two decades than it is expected to add in the coming two decades. This time, however, various other factors are likely to turn the population boom into a true opportunity to boost economic growth.

First, India's population growth is likely to come against the backdrop of slowing growth in the world population (projected at 0.85% in the decade to 2030, versus 1.2% in the decade to 2010). Second, the current boom is likely to be concentrated in the working-age group (aged 15-59); while this was also the case in previous decades, this age group is estimated to contribute 75-80% of the current increase in India's population, up from 60-70% in past decades. As a result, India's estimated median age of 31 by 2030 is far below China's 42 and Japan's 52. These two factors together imply that about 28% and 30% of the global working-age population added in the decades to 2020 and 2030, respectively, will be from India. This is significantly higher than India's share of c.22% in the past two decades, and underlines the potential earning opportunity for the economy.

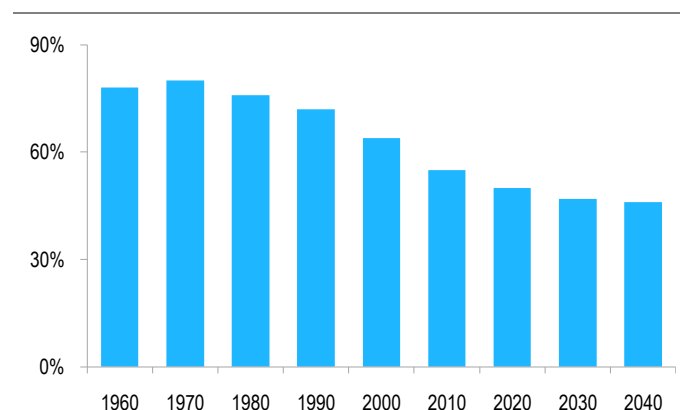
Chart 1: Surging working-age population

mn



Sources: United Nations, Standard Chartered Research

Chart 2: Falling dependency ratio



Sources: United Nations, Standard Chartered Research

India in the Super-Cycle

India is likely to be the most populous country by the early 2020s, driven by rapid growth in the working-age population

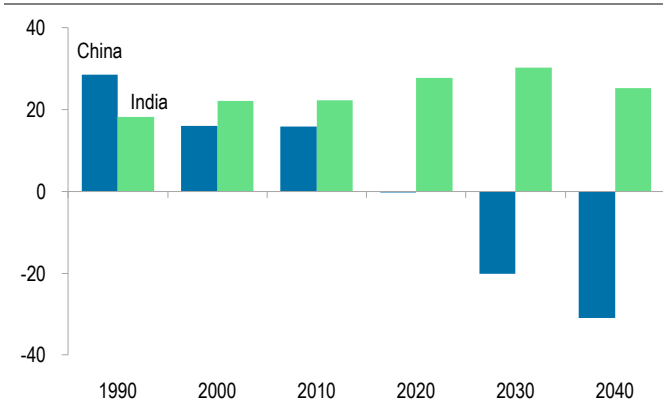
A third element of the current boom is that a falling birth rate is likely to subtract 13mn children (aged 0-14) from India's population during the period from 2020 to 2030, while the addition in the decade to 2020 will be negligible. This is extremely important, as it implies less time required for child care and increases the probability of higher female participation in the labour force. Since females will account for an estimated c.50% of the increase in the working-age population over this 20-year period, their participation in the workforce will be crucial if India is to reap the benefits of the demographic dividend. The latest statistics indicate that more than 80% of India's females aged 15-59 are not currently in the labour force. While factors like the policy environment and inadequate education and health care probably contributed to the low participation rate, child-care demands were also a key deterrent. India added 40-50mn children between 1990 and 2010. The falling number of children is also expected to reduce India's dependency ratio (the ratio of non-working population to working population) from 0.55 in 2010 to 0.47 by 2030, despite an increase in the older population.

This convergence of factors – a surge in the working-age group and a lower dependency ratio – should increase savings, not just because more adults are earning but also because they have to spend less on dependents. This will eventually boost growth. India's growing labour pool is also likely to attract more inward investment seeking to benefit from a large consumer market and the accompanying economies of scale. We discuss some of these opportunities later in this report.

Less developed states are expected to account for the majority of the population in the 15-59 age group

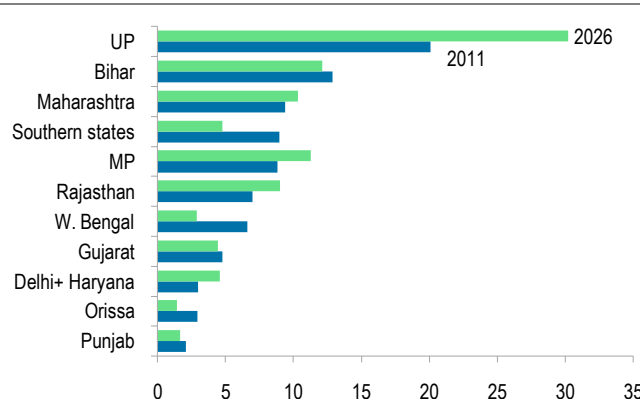
However, no opportunity comes without challenges, and India needs to adopt the right policies – in education, health care and other areas – to maximise this window of opportunity. More importantly, these policies will have to focus on reducing socioeconomic inequalities between states. This is because population growth, especially the working-age group, will come largely from the least developed states, commonly known as the BIMAROU or 'sick states'. According to India's 2001 census, the eight BIMAROU states are expected to account for 49% and 63% of the population increases during the five-year periods to 2011 and 2026, respectively. The median age in most of the BIMAROU states will also be lower than the national average of 31 by 2026. Uttar Pradesh will remain the most populous state, with a median age of 26 – significantly below the national average of 31 and the median age of 37 for the more developed southern states of Kerala and Tamil Nadu. Since the BIMAROU states rank low in terms of health and education indicators, a focus on these regions will be extremely important.

Chart 3: Growing share of the global workforce
% share of incremental world population aged 15-59



Sources: United Nations, Standard Chartered Research

Chart 4: 'Sick states' drive opportunities
% contribution to India's incremental working-age population



Sources: Gol, Standard Chartered Research



6. Middle class and consumerism: Affordability and aspirations

- A five-fold increase in per-capita income by 2030 will give rise to a huge middle class
- The breach of important income thresholds is likely to unleash huge consumer spending
- Our estimates indicate a USD 15trn opportunity as Indian consumers spend more

By 2039, India will add about 1bn people to its middle class as per-capita income increases

We estimate that India's real annual per-capita income will increase five-fold to about USD 5,500 by 2030 (USD 20,500 in nominal terms). This is phenomenal both in an absolute sense and in terms of its economic implications.

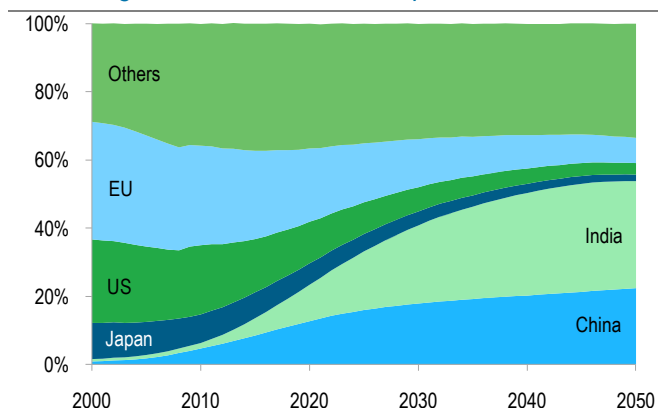
First, it will give rise to a huge middle class. According to the OECD, India's middle class (defined as those with per-capita incomes of USD 10-100 a day) will expand from 5-10% of the population today to 90% in 2039. In other words, India will have added 1bn people – almost its entire current population – to the middle class.

Second, rising incomes will create inflexion points for various products and services as previously unattainable purchases become necessities. Both of these developments are likely to unleash a substantial shift in consumer spending and consumption patterns over the next two decades.

The past few decades provide a preview of what lies ahead. As India's real annual per-capita GDP growth more than doubled to a CAGR of 5% in the 2000s from the 2% rate witnessed until the 1980s, real household spending shot up, giving rise to a consumer boom (see Chart 2). In nominal terms, the rise in per-capita income to USD 1,000 by FY08 – doubling in a short timeframe of five years – defined an inflexion point as households allocated a larger share of their spending to higher-quality non-food items. The share of spending on such products has risen from 42% in the early 1990s to close to 65% today, especially as consumers spend more on services like transportation and personal care products.

Chart 1: India's burgeoning middle class

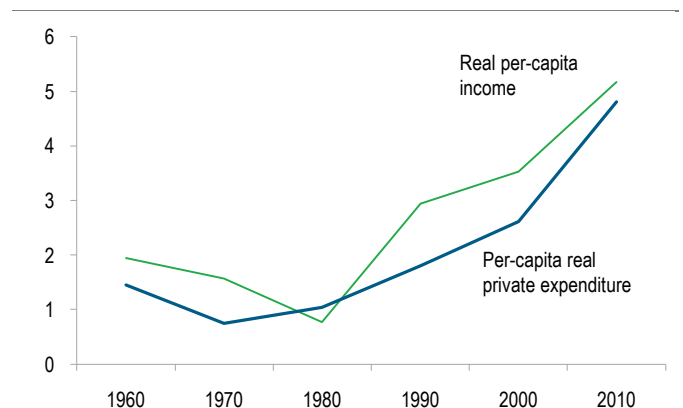
Shares of global middle-class consumption, 2000-50



Sources: OECD, Standard Chartered Research

Chart 2: Rapid increase in consumption as incomes rise

%



Sources: RBI, Standard Chartered Research

India in the Super-Cycle

A USD 11trn market for non-food goods and services is likely to emerge by 2030 as consumers spend a higher proportion of their increased income on such products

This process is likely to accelerate in the next two decades. We estimate a USD 11trn market for non-food-related products and services as their share of consumption increases to 70% from the current 65% (we estimate total consumption at USD 15trn by 2030). India's current expenditure on food, at 35% of total spending, is higher than those of Brazil (19%) and the US (15%).

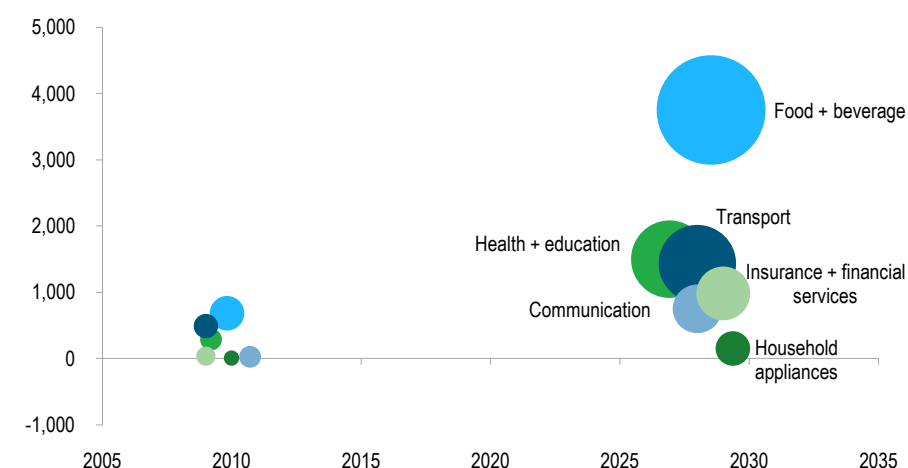
Consumer products and services are set to benefit from this shift in spending patterns. For example, automobiles, for which India is the world's second-fastest-growing market, could see 50-fold growth, creating close to a USD 300bn opportunity. Similarly, as female participation in the workforce increases, dependence on home appliances such as washing machines and microwave ovens is set to rise significantly. Replacement demand for such products is also expected to boost the size of the home-appliance market to more than USD 100bn in the next 20 years. For instance, while almost 90% of Indian households own a television, consumers have strong aspirations for the latest products, such as LCD TVs.

Education and health services are key enablers and beneficiaries of the demographic boom, and are expected to witness significant growth. We estimate that each of these markets can grow to 30 times its current size and be worth close to USD 750bn by 2030.

Expenditure on food products, especially packaged foods, represents a USD 4trn opportunity by 2030

Similarly, household expenditure on financial services may explode to USD 450bn from USD 10bn currently. Credit card penetration remains low, at 2%, and only 5% of households have their financial savings parked in insurance policies, according to a survey by NCAER, an economic think tank. Another 65% of financial savings are kept in bank deposits, while households keep another 20% of such savings at home in order to have them readily available at times of need. The remaining 10% of financial savings are parked in various other products, such as postal saving schemes. Demand for housing and consumer loans has increased since the 2000s, but is also likely to witness further exponential growth. The development of such financial services will further fuel the super-cycle as financial leverage in the economy rises. Finally, while the share of expenditure on food will decline, India's food market – especially for packaged food and beverages – will still offer a USD 4trn opportunity for investors by 2030, more than double the size of the Indian economy today.

Chart 3: Bubbly consumerism (USD bn)



Sources: Euromonitor, Standard Chartered Research

7. The challenges of making every head count

a. Education and health: Nourishing body and mind

- Providing education and health care to the large additional population is an enormous challenge
- Policy commitment is needed via increased public spending, better regulatory framework
- Private sector is likely to dominate the space as public spending falls short of high demand

While the boom in its working-age population gives India a competitive edge, the challenge of educating and providing health services to this population is equally large. Insufficient efforts to nurture the young population could result in another missed opportunity, while the right focus on education and health – known as the enablers – could propel India to the forefront of the global economy and secure its role as a superpower in the years ahead. Below, we discuss issues related to education and health, and the challenges India must overcome to unleash its demographic dividend.

Education

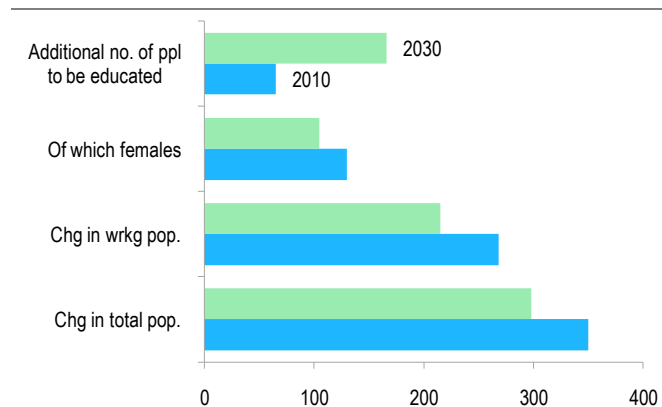
Lack of adequate policy focus until now has added to the challenge of reaping the demographic dividend

India will have an additional 166mn³ people attending schools and colleges at various levels over the next two decades. This is close to the total number of people India will add to its population in the 2020s, or equivalent to educating an entire Japan. It is important to understand that much of the challenge emanates from the inadequate level of education which exists today.

The dimensions of India's education problem vary across different levels of the education system. At the primary level, the enrolment rate has improved substantially, but there is an urgent need to address issues like the high drop-out rate and teacher absenteeism (only 37.5% of India's schoolteachers are present and actively teaching on any given day, according to a study by the Harvard University and the World Bank). Otherwise, the recently introduced Right to Education Act will not serve its intended purpose. Similarly, the 60% enrolment rate at the secondary level is inferior to India's competitors in East Asia (70%) and Latin America (82%). If the enrolment rate is increased to 75% by 2030, as the government envisions, an additional 50mn people will have to be educated at the secondary level. In higher education, an increase in the enrolment rate from the present 14% to the global average of 26% will

Chart 1: The demographic boom and challenge

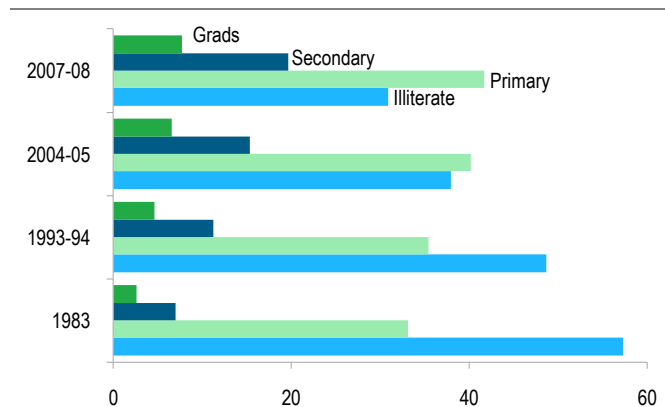
Mn people, over the two decades to the ending year



Sources: United Nations, Standard Chartered Research

Chart 2: Majority of the labour force is less educated

%



Sources: NSEUS, Standard Chartered Research

³ Based on education in India, 2007-08: Participation and expenditure, United Nations population projection

The quality of education and skill development need to be emphasised

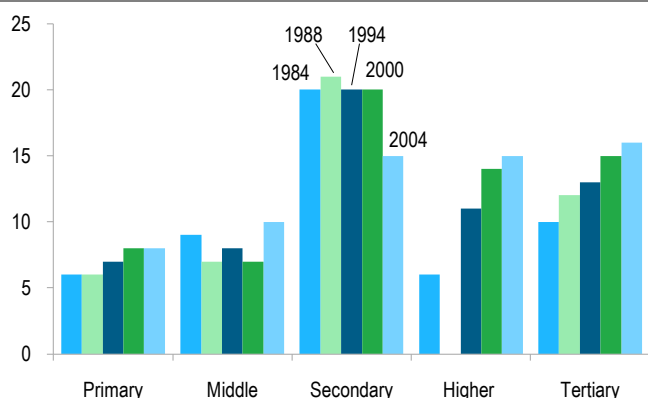
require creating the capacity for an additional 40mn people by 2030. The World Bank estimates that India will surpass the US and China to have the world's largest population of 15 to 65-year-olds with tertiary education by 2020. Public-private partnerships in education need to flourish in order for this to happen. Only 83 of India's 600 universities are currently private (some of the 130 so-called 'deemed' universities may also be private). This number is still low compared to the demand for education. The education minister estimates that in order to double enrolment in higher education by 2020, India will need another 1,000 universities and more than 40,000 new colleges (up from about 30,000 now). Constraints on private-sector and foreign players setting up educational institutions need to be removed.

Public-private partnerships need to flourish in order to educate an additional 166mn people in the next two decades

Many businesses in India have described skill shortages as an obstacle. According to the latest available data, 97.8% of India's literate population has general (non-technical) education, while only 1.9% has technical education and 0.3% has vocational education. Meanwhile, only 5% of those aged 19-24 have received any vocational training, leaving them without identifiable skill sets. While there are 12.8mn new entrants to the workforce every year, the country has the capacity to train 3.1mn people annually, highlighting the wide gap between supply and demand. Some private studies estimate that India will require an additional 700,000 doctors by 2026, but it trains only 17,000 doctors annually. Although close to 400,000 engineers are produced every year, there are questions surrounding their immediate employability. The National Skill Development Mission is actively seeking ways to enhance skill sets. If the knowledge of English that Indians generally possess can be combined with good vocational training and improved quality of education, Indian workers will not only succeed in domestic industries but could also be increasingly valuable resources in the global market. This is evident from Chart 3.

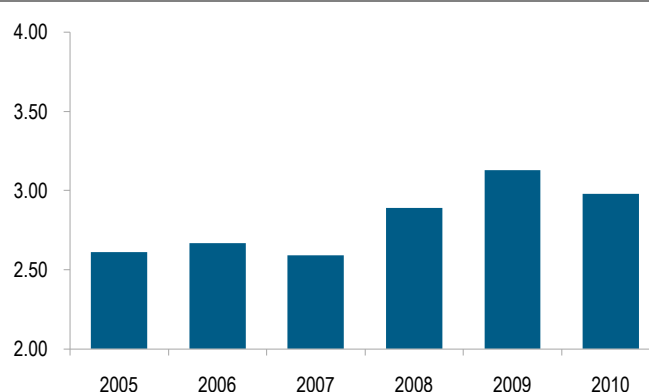
For this to happen, public spending on education – currently at 3% of GDP, versus the 4.5% average for middle-income countries – needs to rise to 6%. Though the India Planning Commission recommended doubling investment in education in 2002, little progress has been made towards this goal. Even if this is pursued over the next two decades, and the government spends c.USD 3trn and USD 12trn on education in the decades to 2020 and 2030, respectively, it is likely to fall short of the required investment – especially to educate the surging population in the 15-24 age group. Increased private participation in the education sector will therefore be necessary. In addition, the perceived quality difference between public and private institutions is likely to create demand for privately sponsored education in urban and rural centres.

Chart 3: Better education increases earning potential
Marginal increase in earnings with incremental levels of education (males, %)



Source: World Bank

Chart 4: Public spending on education should increase
% of GDP



Sources: WDI, Standard Chartered Research

Health care

Health parameters are improving, but delivery of health services varies across the country

India's health parameters have improved. Life expectancy has risen from 33 to 64 years in the last 60 years. The infant mortality rate has fallen from 148 to 53 per 1,000 over the same period. The crude birth rate has declined from 41 to 25, and the crude death rate has fallen from 25 to below 9. Despite these achievements, India still ranks very low compared to its peers. For instance, India's infant mortality rate of 53 is significantly higher than China's 19 and Indonesia's 25.

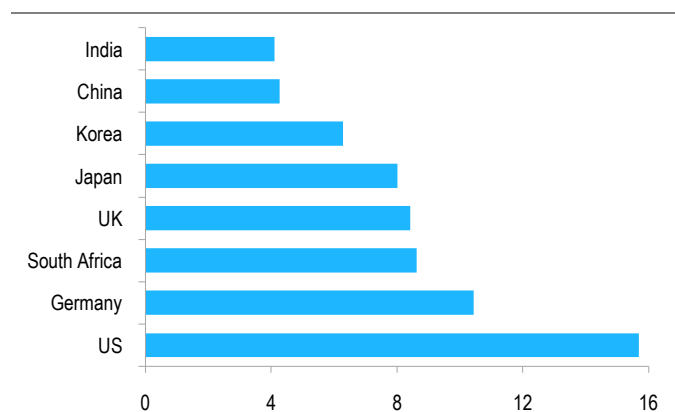
Health parameters are also uneven across the country. For instance, while poorer states like Bihar and Uttar Pradesh have high infant mortality rates of 56 and 67, respectively, Kerala's rate of 12 is comparable to developed economies. Similarly, the range of health services varies – private medical centres in large cities offer world-class facilities at affordable prices (leading to a boom in medical tourism), while rural areas face acute shortages of doctors and hospitals.

Public-sector spending on health care needs to increase to 3.4% of GDP, even as the private sector continues to play an important role

Low per-capita public spending on health is partly to blame for the current state of India's health services. At 1.1% of GDP, India's public spending on health placed it in the bottom 10 in the world in 2007, according to the World Bank's latest World Development Indicators. On this measure, India ranked better than economies like Côte d'Ivoire and Guinea, and ranked below its less developed neighbour, Bangladesh. The private sector still accounts for close to 80% of the country's health spending. Though the private sector is generally perceived to offer better health services, the lack of effective state regulation and oversight can lead to problems like overtreatment and unreasonable costs. Also, only 16% of India's labour force is in the organised sector; the informal sector, with no access to benefits such as medical insurance, often goes without badly needed health care.

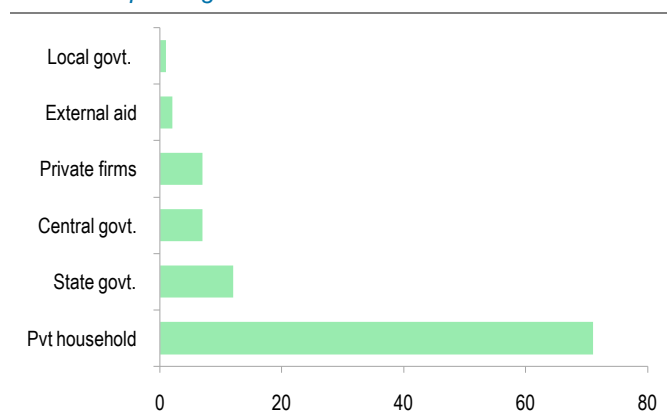
As in the education field, a policy commitment to universal access to health care, especially in rural areas and with a focus on women and children, is necessary. Public spending has to be increased to the upper-middle-income economy average of 3.4% of GDP, while the private sector must play a growing role in a better-regulated framework. With increased urbanisation and changing lifestyles, rates of lifestyle diseases such as those related to stress are likely to rise, and India needs to prepare for this. While the initial costs of providing health services might outweigh the benefits, a virtuous cycle of health and growth should eventually kick in.

Chart 5: Total health spending as a share of GDP is low % of GDP



Source: World Bank

Chart 6: Private spending drives health expenditure % of total spending on health care



Sources: NCEUS, Standard Chartered Research

b. Employment: Jobs for all

- Pace of job creation must increase to 13-15mn jobs a year to reap the demographic dividend
- Reducing the share of the unorganised sector, self-employed and casual workers will be a challenge
- Increased wages, supported by higher productivity, will be positive for consumption growth

We estimate that about 13-15mn jobs will have to be created every year to reduce the unemployment rate to 5% by 2030

Job creation almost doubled in the FY94-FY00 period (24mn jobs created) and the FY00-FY05 period (47mn jobs). Yet even with an annual run rate of close to 10mn job additions, the unemployment rate increased from 7.3% in FY00 to 8.3% in FY05. The 11th Five Year Plan (FYP), which runs from FY08-FY12, aimed to change this trend by creating jobs for 58mn people (an annual rate of close to 12mn) against an addition of 45mn people to the labour force during the period, reducing the unemployment rate to less than 5%. However, the latest employment survey for FY10 showed that the unemployment rate was still high, at 9.4%.

India will add about 240mn people to its working-age population over the next two decades, and they will need employment opportunities. The country is also set to increase its very low labour-force participation rates of 35.9% overall and just 14% for females. With higher labour-force participation, we estimate that about 13-15mn jobs have to be created every year in order to reduce the unemployment rate to 5% by 2030. This is not impossible, but it is a challenging task.

Reducing the number of self-employed, casual and seasonal workers should also be a policy priority

It is not just the number of jobs but also the quality of job creation that matters. A key aspect of this challenge is shifting jobs from India's vast 'unorganised' sector to the much smaller 'organised' sector. More than eight out of 10 people currently work in the unorganised sector, either as self-employed workers (44%) or casual labourers (39%). Almost two-thirds of the employed labour force works at establishments with fewer than 10 workers. Employment in the organised sector fell at a rate of 0.03% p.a. from FY94 to FY07. More than 73% of India's population resides in rural areas, and 58% of the employed population in rural areas depends on agriculture and related activities. In addition, 40% of the country's employed population is engaged in seasonal or ad-hoc activities with no source of permanent income.

Table 1: The employment matrix

%

	Rural	Urban	Total
Labour-force participation rate	36.5	34	35.9
Proportion unemployed	3.7	2.5	3.4
Unemployment rate	10.1	7.3	9.4

Sources: Employment Survey FY10, Standard Chartered Research

Table 2: Industrial classification of employment profile

%

	Rural	Urban	Total
Agriculture, forestry, fishing	57.6	9.9	45.5
Manufacturing	6.7	15.4	8.9
Construction	7.2	8.6	7.5
Wholesale, retail trade	5.9	17.3	8.8
Financing insurance	1.4	6.1	2.6
Community services	6.3	14.6	8.4

Sources: Employment Survey FY10, Standard Chartered Research

To increase employment in the organised sector, labour laws need to be more flexible; however, the options of exporting labour and supporting labour-intensive industries should not be ignored

The job creation strategy must therefore aim to reduce the shares of the unorganised sector and self-employed, casual and ad-hoc workers, and create more jobs in urban areas. We believe that if industry's share of GDP increases to around 40% during the super-cycle period, the share of organised-sector employment will increase. Labour laws will also need to become more flexible in order to increase employment in the organised sector. Companies with more than 100 employees are currently required to report any downsizing to the authorities, and this often acts as a hindrance to employing more people. India's educated, English-speaking population will naturally look for jobs in the services sector, but employment elasticity could be low in some services, such as financial and telecom services. While services may remain the main driver of the economy, they might not be able to provide jobs for all.

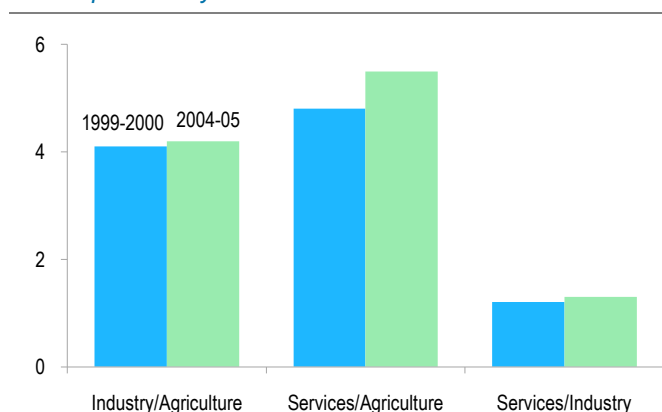
Amid insufficient opportunities at home, India will look to export skilled labour to the rest of the world. The 11th FYP estimated that there would be a global skilled manpower shortage of 56.5mn by 2020, and India is in a position to supply 47mn workers to narrow this gap. If labour mobility in the global economy is not hindered by protectionist pressures, exporting skilled labour can provide one solution to India's employment challenge. However, given the sheer magnitude of job creation required, the agriculture sector and labour-intensive industries like construction, equipment operation, paper and textiles cannot be ignored. The recently introduced Right to Employment Act is primarily a poverty alleviation measure, and more government efforts are needed to provide sustainable employment opportunities.

Changing employment patterns should bring about increased productivity, higher wages and more female participation

Changing employment patterns are likely to push up average wages, especially in sectors facing initial skill deficits. This ties in well with our projections on India's per-capita income growth and the emergence of the middle class. The challenge will be to ensure that wage pressures are matched by productivity improvements, and that competitiveness is not eroded. Labour productivity has improved substantially over the last two decades, but this trend needs to continue. The fact that labour productivity is about five times higher in non-agriculture sectors than in agriculture should help.

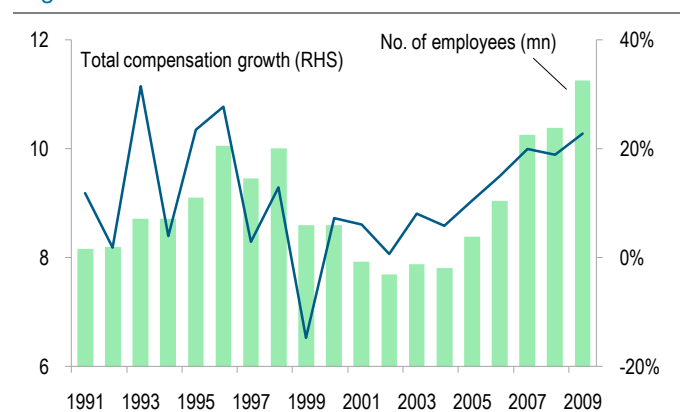
Female participation in the labour force is also likely to increase. Tapping the productive power of the female population will be an important component of raising the potential economic growth rate, as well as addressing the issue of gender equality. The presence of two earning members in more families is likely to raise household incomes and encourage spending.

Chart 1: Labour is more productive outside agriculture
Labour productivity ratio



Sources: RBI, Standard Chartered Research

Chart 2: Job growth is putting pressure on wages
Organised sector labour scenario



Sources: ASI, Standard Chartered Research

c. Urbanisation: A tale of many cities

- Urbanisation will be both a driver and an outcome of the super-cycle phenomenon
- Policy commitment via increased public spending, better regulatory framework is thus necessary
- Private-sector participation will be important in funding, creating and running an urban India

As India generates 435mn jobs in its manufacturing and services sectors by moving labour from the less productive agriculture sector, further growth of existing urban areas and the rise of new urban centres is inevitable in next two decades. (This projection assumes a 65% labour force participation rate and 70% non-agricultural jobs by 2030, up from 44% in FY08.) A recent report by a government committee estimated that India's urban population would double to 611mn by 2031 from around 366mn in 2011. This effectively means that India will have to urbanise about 230mn people in the next two decades, a similar amount to the last four decades – comparable to six Tokyos, 26 Londons, 11 New Yorks or 13 Shanghais.

India will have to urbanise about 230mn people in the next two decades, a similar amount to the last four decades

Cities house only 30% of India's total population, but contributed close to 63% of GDP in 2009. While this offers an opportunity given that urbanisation usually propels economic growth, the associated challenges are immense. India's cities and towns are visibly deficient in quality of services, despite the country's relatively slow pace of urbanisation. Its current urbanisation rate is comparable to those of many African countries and significantly lower than South Korea's 82%, China's 46% and Indonesia's 42%. The government committee estimates that as India invests USD 1.2trn (at 2009-10 prices) in developing its urban centres by 2030, the majority of the investment will go towards addressing inadequate existing urban infrastructure and services. For instance, 50-80% of the required investment in urban road development – USD 620bn by 2030 – will have to go towards fixing inadequate road infrastructure. Similarly, the backlog in water distribution is estimated to be in the range of 20-60%. The lack of funds, expertise and planning that has characterised past urban development needs to be corrected urgently. Today, almost 25% of India's urban dwellers live in slum areas. In Mumbai, one of the world's most densely populated cities, 54% of residents live in slums with inadequate services. This obviously limits the productivity of India's valuable labour force, which lies at the core of the super-cycle phenomenon.

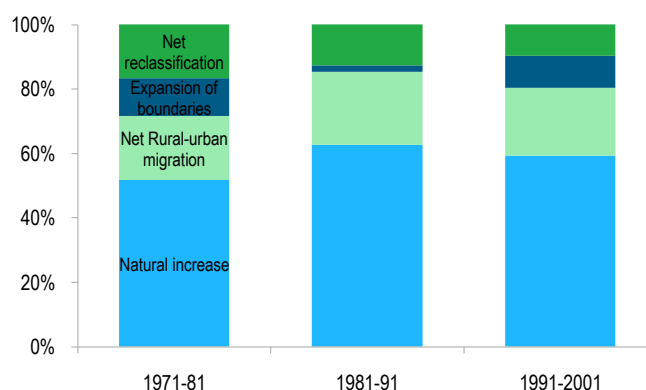
Table 1: Urban challenges

	2011	2030
Urban dwellers (mn)	366	611
Metropolitan cities (number)	50	87
Urban agglomeration (number)	4,378	8,000

Sources: Government report, Standard Chartered Research

Chart 1: Internal migration has been limited

% increase in urban population



Sources: Government report, Standard Chartered Research

A doubling of the number of urban areas and an increase in large cities will require USD 1.2trn of real investment in the next two decades

The government therefore needs to improve infrastructure and services in existing cities as it fosters the creation of new urban centres. According to the government committee cited above, the number of urban areas and cities/towns will nearly double from 4,378 in 2001 to about 8,500 by 2031. 87 of these will be metropolitan cities (with populations of over 1mn), up from 50 in 2011. Growth in Indian cities is expected to occur through a process of peripheral expansion, with surrounding smaller municipalities and large villages becoming part of the large metropolitan area. The government sees the country's 18,760 villages with populations of more than 5,000 (as of 2001) as potential candidates to become new urban centres. It is emphasising the proper development of these villages to prevent them from becoming unplanned and haphazard settlements or slums.

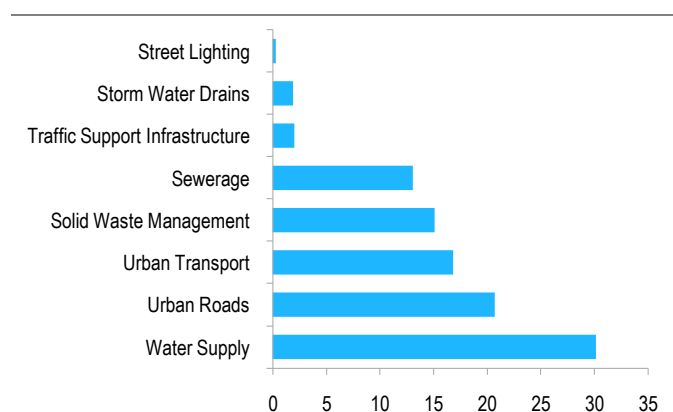
Urban infrastructure development will be huge in the coming years. According to a study by McKinsey, the road-lane expansion of 19,000-25,000km required each year for the next two decades exceeds what has been constructed over the past decade. Plans to build 700-900mn square metres of residential and commercial space a year are equivalent to building two Mumbais every year. To meet urban transportation needs, 350-400km of metro rail and subway lines have to be developed annually – more than 20 times the capacity built in the past decade.

Maintenance of newly created assets and good governance are important to the urbanisation process

The challenges of urbanisation do not stop with the creation of assets. Equal effort has to be put into operating and maintaining such facilities. The above-mentioned government committee has recommended allocating c.USD 570bn (in FY10 prices) to such services by 2030. Governance will play an equally important role in delivering these new services, and increased private-sector participation can increase the efficiency of delivery. Public-private partnerships will be important in funding infrastructure development on such a large scale, even as the revenue-generating capacity of state and urban local bodies improves. Well-defined user charges for the various services will be important to attracting sufficient private interest.

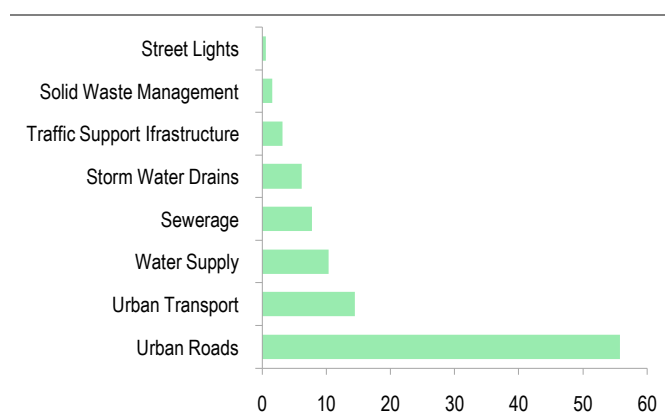
Urban development is a critical challenge for India. However, history is replete with examples of cities in other countries being turned around in less than a decade. Within India, the transformation of quiet cities like Bangalore into business hubs is encouraging. A combination of effective governance, planning and funding can help turn India's urbanisation story into a compelling investment opportunity.

Chart 2: Shares of recommended operating and maintenance spending by 2030, by sector (%)



Sources: Government report, Standard Chartered Research

Chart 3: Shares of recommended capital expenditure by 2030, by sector (%)



Sources: Government report, Standard Chartered Research

d. Food security: Feeding more than a billion mouths

- India is likely to become an importer of most food items over the course of the super-cycle
- Plugging the shortfall through imports will pose economic risks, and further reduce food affordability
- Increasing agricultural productivity is crucial to achieving long-term food security

Rising food consumption is likely to challenge India's food self-sufficiency through the super-cycle

While India achieved food self-sufficiency in the late 1960s, its progress towards food security has disappointed owing to low levels of per-capita calorie consumption (see Table 1). Food distribution bottlenecks and rising food prices have been largely responsible for this. During the current super-cycle, we expect rapidly increasing income levels and better food management policies (such as the Right to Food Act) to push India's per-capita calorie consumption significantly higher. By 2030, we project that it will rise to 3,000 kcal/person/day, from around 2,034 in FY05; this will be accompanied by a higher share of proteins in the food basket. However, food-security concerns are likely to persist, as low agricultural productivity may widen the domestic demand-supply mismatch and push India back to a state of food insufficiency.

The gap between India's population growth and food-grain production growth has progressively narrowed over the last few decades (see Chart 1). A key reason for this is the sustained degradation of land and groundwater resources. Despite vast tracts of cultivable land, India's net sown area has stagnated at around 140mn hectares since the 1980s. Meanwhile, per-capita water availability has declined to 1,720.29 cubic metres from around 5,000 cubic metres in 1951. Conflicting studies have clouded the picture on India's water resources. In 2000, the National Commission on Integrated Water Resources Development (NCIWRD) estimated India's water requirement at 843bn cubic metres by 2025. Based on this, India's utilisable water resources of 1.123trn cubic metres, as computed by the Ministry of Water Resources, are more than adequate to last through the super-cycle. In contrast, a 2008 study on India's water budget balance concluded that its utilisable water resources stood at 654bn cubic metres, close to current usage of 634bn cubic metres. Strains on water resources at the regional level, however, are well documented.

Table 1: India's progress towards food security

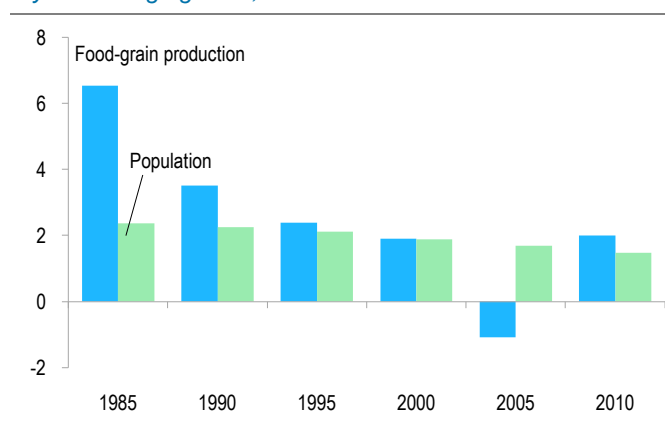
Food security indicators (2005-07 average)

Country	India	Lower-middle-income countries	Upper-middle-income countries
Number of undernourished (mn)	238	537	28
Proportion of undernourished (%)	21	14	3
Under-5 mortality rate (per 1,000)	74	64	26

Sources: WDI, Standard Chartered Research

Chart 1: Food production is in a sustained decline

5-year average growth, %



Sources: CEIC, Standard Chartered Research

India is likely to become an importer of most food items by 2020, but imports are not a feasible medium-term solution for food security

In the face of such constraints, domestic production is likely to fall significantly short of projected food demand by 2030. We estimate that India's rice and wheat output will be insufficient by the end of the decade. There is a possibility that the country will exit the rice export market permanently in the near future. Significantly, these estimates do not take into account weather and climate change-related disruptions (see **Special Report, 16 October 2009, 'The end of cheap food'**). However, imports are not a feasible solution over the medium term. Not only would India's rising food import bill adversely impact external balances, but closer links to global food prices could also impact food affordability. Hence, a focus on boosting agricultural productivity is required. According to a 2009 study by the National Centre for Agricultural Economics and Policy Research (NCAP), India can remain self-sufficient in food if it increases its rice and wheat yields by 521kg/hectare and 550kg/hectare, respectively, by 2022. A comparison with yields achieved by other countries for various food items indicates that NCAP's target yield projections can be achieved through the adoption of suitable technologies (see Table 3).

Currently, India spends around 0.6% of its agricultural GDP on R&D. There is a need to raise this ratio to 1.0%, which is the average for developing countries, according to most experts. A shift in the focus of agricultural research from developing high-yield seed varieties is also recommended. Given finite resources, the research system should begin to emphasise technological breakthroughs that would increase yields through the efficient use of soil nutrients and water.

Long-term food security can be achieved only by increasing agricultural productivity and implementing a better food distribution mechanism

Low area under irrigation, low mechanisation and insufficient power supply are among the other key issues plaguing India's agriculture sector. These can be successfully addressed by increasing the share of private investment in agriculture, which is currently only 15% of agriculture GDP. To enable this, policy makers have to step up land and credit reforms. Finally, increases in production capacity need to be supplemented by a better institutional mechanism to distribute food across such a vast country. Thus, the development of modern food retailing, which allows for lower marketing costs and reduced spoilage (it is estimated that annually 30% of food is wasted due to inadequate storage), needs to evolve in tandem with developments at the farm level. While some state governments have already amended their marketing laws to make existing market structures more flexible, several are yet to follow through. To ensure greater private participation and the promotion of direct and contract marketing, these reforms need to be implemented quickly.

Table 2: Alternative studies on India's water demand

bn cubic metres

Sector	MoWR estimates		NCIWRD estimates	
	2010	2025	2010	2025
Irrigation	688	910	557	611
Drinking water	56	73	43	62
Industry	12	23	37	67
Energy	5	15	19	33
Others	52	72	54	70
Total	813	1,093	710	843

Sources: 11th Five Year Plan, Standard Chartered Research

Table 3: India's projected yield gap can be plugged

	Total demand FY22 (mt)	FY10 yield (kg/ha)	Target yield FY22 (kg/ha)	Highest yield globally (kg/ha)
Rice	113.3	2,130	2651	9,731
Wheat	89.5	2,830	3,380	9,036
Coarse cereals	31.0	1,222	1,046	9,079
Cereals	233.6	2,077	2,364	8,886
Pulses	19.5	625	853	19,273
Food grains	253.2	1,798	2,080	-

Sources: NCAP, FAO Statistics, Standard Chartered Research

8. Infrastructure: Powering growth

- Ambitious plan to push infrastructure spending to 10% of GDP to address staggering deficit
- More private spending would imply dependence on bank credit and gradual opening of capital account
- Reducing implementation delays is critical to maintaining availability of finance

Supply of infrastructure has not kept pace with demand, creating growth bottlenecks

Infrastructure bottlenecks have been a drag on India's growth performance. The Finance Secretary recently mentioned that India loses as much as 2ppt of GDP growth every year because of inadequate infrastructure. The surge in per-capita income, the increased share of industry in economic growth, rural-urban migration, and rising aspirations for big-ticket items like passenger cars have increased demand for infrastructure within a short time period without a commensurate supply response. India's national highways account for only 2% of all roads but carry 40% of traffic, less than 50% of the country's 0.43mn km road network is surfaced, and the peak power deficit is still around 12-13%. Most infrastructure sectors (except telecoms) have grown at a slower pace than the country's GDP growth.

Although there is much discussion of the fact that India has consistently missed its physical and financial infrastructure targets, infrastructure spending in most sectors has doubled in constant price terms under the 11th Five Year Plan (FYP), which runs from FY08-FY12. The focus will be on further doubling infrastructure spending to USD 1trn under the 12th FYP (FY13-FY17), with the aim of increasing the ratio of infrastructure spending to GDP to more than 10% by the plan's final year. Looking further ahead, even assuming that infrastructure investment stabilises at around 8% of GDP, India will have to spend close to USD 10trn on infrastructure during the final five years of our super-cycle reference period (2026-30). The scale is simply enormous.

Increasing emphasis on private participation should be continued to lessen pressures on fiscal deficit

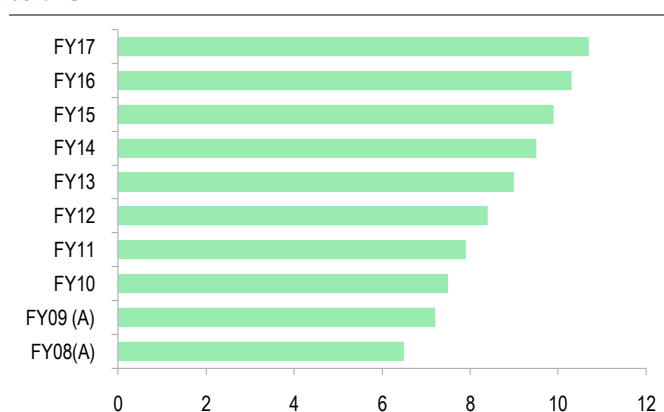
However, financing issues are daunting. India's over-reliance on public spending to finance infrastructure is being reduced significantly. The successful adoption of the public-private partnership (PPP) model means that the proportion of public-sector spending is likely to decline from 75% under the 10th FYP to 64% under the 11th FYP, and is estimated to fall to 50% in the 12th FYP. This is a welcome development because the fiscal deficit would have otherwise worsened considerably.

Chart 1: 11th FYP was a watershed period for infrastructure (% y/y, average for the period)

Sector	11th FYP (% of total spending)	% growth in 11th FYP over 10th FYP
Electricity	32.1	94
Roads	13.6	119
Telecommunications	16.8	239
Railways	9.8	97
Irrigation	12.0	131
Water supply and sanitation	5.4	86
Ports	2.0	77
Airports	1.8	424
Storage	0.4	59
Oil and gas pipeline	6.2	293

Sources: Planning Commission, Standard Chartered Research

Chart 2: The spending plan
% of GDP



Sources: RBI, Standard Chartered Research

Financing the debt requirements of infrastructure companies would require improved creditworthiness and further opening up of the capital account

Even if we assume a similar financing pattern under the 12th FYP as the 11th (48:52 debt-equity ratio; 43% financed by banks, 23% via non-banks and 12% via foreign sources), the debt-funding requirement from foreign sources could be USD 140bn. However, with a larger share of private-sector spending, the debt requirement is likely to be higher. There is therefore a need to improve the creditworthiness of infrastructure companies so that they can borrow abroad. At the same time, the process of opening up the capital account needs to be accelerated further.

This can be achieved through higher foreign institutional investor (FII) participation in the corporate debt market for infrastructure-company bonds. The increase in the FII limit from USD 5bn to USD 25bn in the FY12 budget showed a strong intent which needs to be maintained. Sustained strong macroeconomic performance is likely to improve India's sovereign rating, which could help private infrastructure companies to raise money at a cheaper rate.

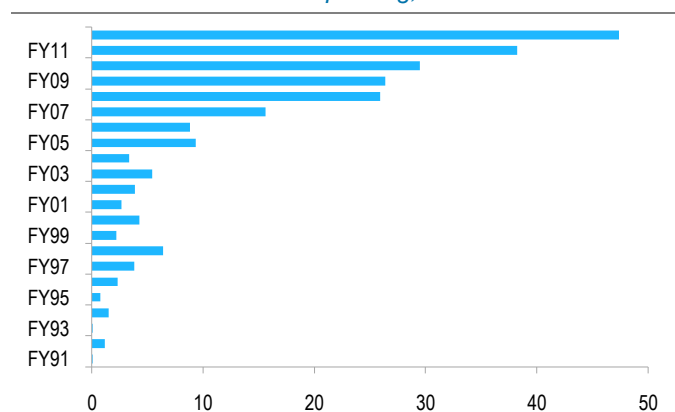
Specialised infrastructure financing companies, a more developed pension and insurance sector, and a vibrant corporate debt market could share the financing burden with the banking system

Among domestic sources, almost 40% of new bank credit goes to infrastructure. However, banks are constrained by single-sector and single-borrower exposure limits. Therefore, specialised infrastructure financing companies and funds need to be set up to refinance some of the loans, and banks' exposure limits need to be relaxed. India has already taken steps towards creating such funds in the FY12 budget, but more needs to be done. Since banks will have to raise substantial capital to meet demand for infrastructure funds, further consolidation of the banking system and greater private participation – both domestic and foreign – would be helpful. It is possible that the banks will have to finance more than USD 200bn of infrastructure needs under the 11th FYP. In this context, further consolidation of the banking system and opening of the banking sector should be viewed favourably.

Pension and insurance companies need to be encouraged to finance infrastructure needs, as they would not suffer from the maturity mismatch that the banks face. Further development of the corporate debt market is crucial for them, but they would also benefit from efficient credit risk transfer mechanisms, including credit derivatives and credit insurance.

Chart 3: Private sector has taken a prominent role

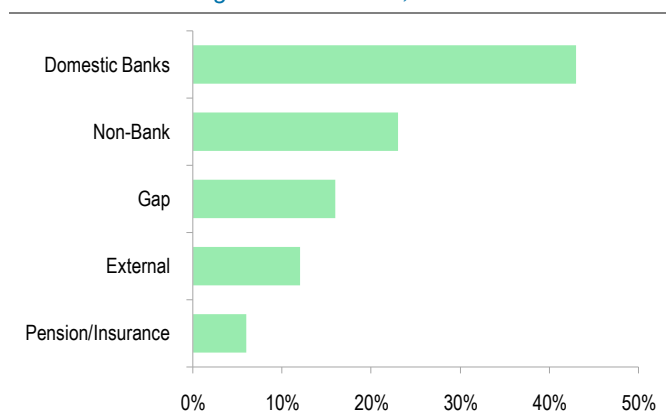
Private-sector infrastructure spending, USD bn



Sources: Planning Commission, Standard Chartered Research

Chart 4: High dependence on banks and foreign funding

Sources of financing for the 11th FYP, %



Sources: Planning Commission, Standard Chartered Research

Infrastructure projects also need risk capital in the form of equity. Private equity players are increasingly recognising the potential for growth in India's infrastructure sector, and close to USD 4bn may have come through this route in 2010. However, FDI flows into infrastructure declined in FY11, and this trend needs to be reversed immediately.

Implementation issues related to land acquisition and the procurement of raw materials and equipment need to be addressed immediately

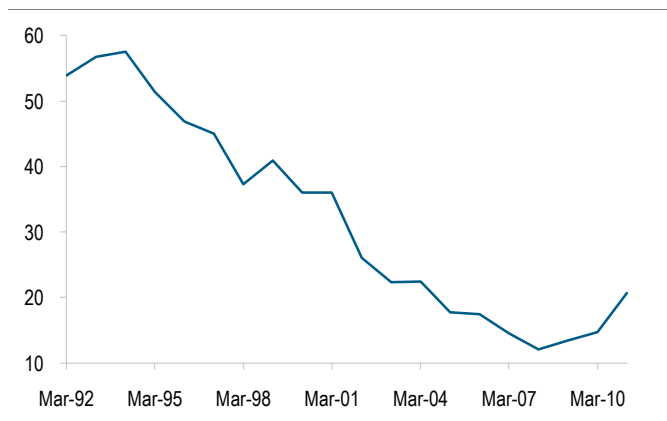
In order to sustain the flow of money into infrastructure, implementation issues need to be addressed. A private study found that between 1992 and 2009, of 1,035 completed infrastructure projects, 41% experienced cost over-runs, while 82% were affected by delays. Even more worrying is that cost over-runs of government projects have increased since the global financial crisis. Technology, raw-material, and equipment needs – especially in the power and telecom sectors – should be addressed immediately. The government estimates that coal imports, which likely shot up to 84mn tonnes in FY11, will rise by a further 70% in FY12 to 142mn tonnes. High transmission and distribution losses (35%) and one of the lowest electricity tariffs in the world (8 US cents/KWh) are causing State Electricity Boards to lose almost 1% of GDP annually. It is imperative to develop domestic suppliers of critical inputs over the longer term, but until that stage is reached, India needs to enter strategic tie-ups with partner countries.

Infrastructure-led productivity growth is possible if the government creates the right framework for the private sector to seize the opportunity

Better infrastructure will improve productivity growth through forward and backward linkages; at the same time, the process of building this infrastructure will require substantial investment, which will push up the investment rate in the economy. We think that financing infrastructure is achievable with supportive policies from the government and regulators. India's success stories have been instances where the government has created the framework and the private sector has seized the opportunity.

Chart 5: Trends in cost over-runs of infra projects

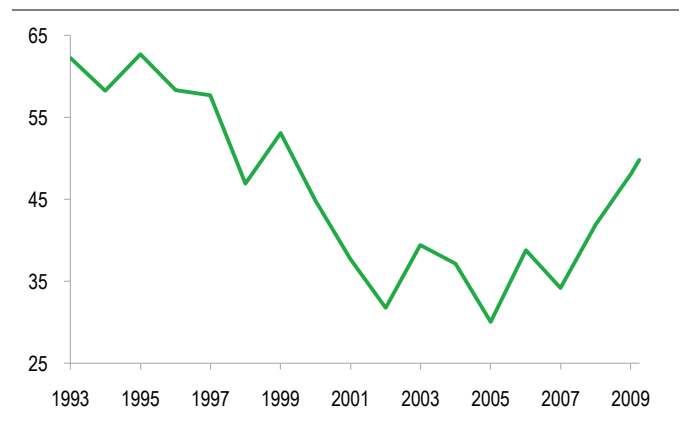
% cost over-run



Sources: MOSPI, Standard Chartered Research

Chart 6: Trends in time over-runs of infra projects

% of projects running behind schedule



Sources: MOSPI, Standard Chartered Research

9. Land resources: Breaking the gridlock

- Limited land resources and arcane laws make land acquisition a contentious political issue
- Land-market inefficiencies have kept the share of land for non-agricultural purposes stagnant
- Letting market forces determine land allocation and involving communities can remove bottlenecks

Structural burden on land resources has been worsened by demand from industrial and mining sectors, leading to social tension

The burden on India's land resources is partly structural – the country covers only 2.4% of world's geographical area but is home to almost 17% of the global population. Given that almost 52% of the land is cultivable (versus the global average of 11%), land available for non-agricultural use is relatively limited. Over the course of the current super-cycle, industrialisation, urbanisation and infrastructure development will all lay claim to this limited resource. In anticipation of this scarcity, land acquisition has become one of the most hotly debated economic and political issues in India. In the context of land acquisition, we believe the right balance has to be struck between short-term growth needs and long-term sustainability concerns.

The need for macro regulation of land acquisition (particularly for mining) has arisen because the country's mineral-rich states have relatively higher forest cover, and are home to a large proportion of India's tribal population. As the pace of economic growth has accelerated, demand for forest clearances has increased manifold. Between 1980 and 1997, 19 such clearances were allowed per year; between 1998 and 2005, the number increased to 126 per year. As a consequence, about 60,000 hectares of land were diverted to mining between 1998 and 2005. Land acquisition and large-scale deforestation may have negatively affected the livelihood of tribal peoples, worsened economic inequality, and bred Maoist extremism.

More recently, land and environmental clearances have become tougher to obtain. Since 2006, the environment ministry has halted 64 projects and delayed 469 projects. Obstacles to land acquisition have become a key impediment to industrial development – a government study found that of the 190 delayed public-sector projects, 70% were delayed on account of land issues.

Land acquisition has been a key hurdle to the implementation of infrastructure projects because market-based solutions for land allocation have been ignored

In a survey by the Confederation of Indian Industry, 81% of respondents said that land acquisition is the most important hurdle to the implementation of infrastructure projects. In our view, adopting a firm timeline for awarding land and environmental clearances would significantly reduce time over-runs for industrial projects.

Table 1: Diversion of forest land to mining increased in recent years

	1980-1997	1998-2005	Total (1980-2005)
No. of mine leases granted in forest areas	317	881	1,198
Avg. no. of mine leases granted every year	19	126	80
Forest land diverted to mining (ha)	34,526	60,476	95,003
Avg. amount of forest land diverted to mining every year (ha)	2,031	8,638	6,334

Sources: Response to question in Rajya Sabha, Standard Chartered Research

Due to the inherent peculiarities of land as a resource and restrictions on the free trading of land, there are frequent instances of market failure in allocating land resources. The Indian government has the right to acquire land for private companies without the landholder's consent if it is for a 'public purpose'. This is done under the 115-year-old Land Acquisition Act (LAA).

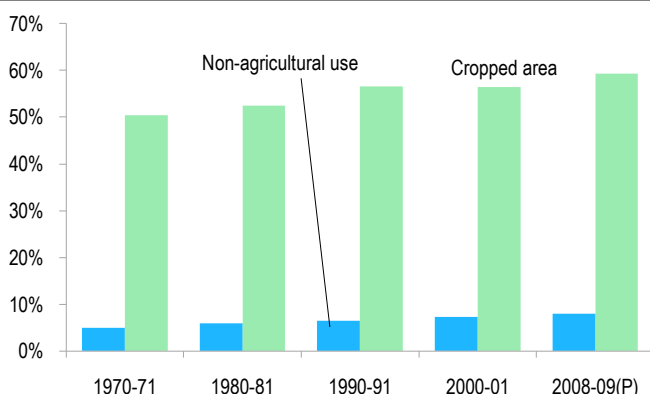
In order to develop market-based solutions for optimal land allocation, detailed land records need to be computerised; all restrictions on buying and selling of land should be removed in order to reduce rent-seeking behaviour on the part of industry (in some states, only farmers can currently buy agricultural land); and the price determination process should be perceived as fair.

However, benefit-sharing is likely to be contentious given information asymmetry – the farmer often does not know the true value of his land. It is therefore important to involve local communities in the process before a private party buys land. If this process is kept relatively free from political interference, the solution is often long-lasting. Also, over a longer time period, the capacity to generate alternative employment for farmers who sell their land needs to be developed.

Fair and transparent legislation on land acquisition would avoid contentious battles over land and speed the pace of infrastructure development

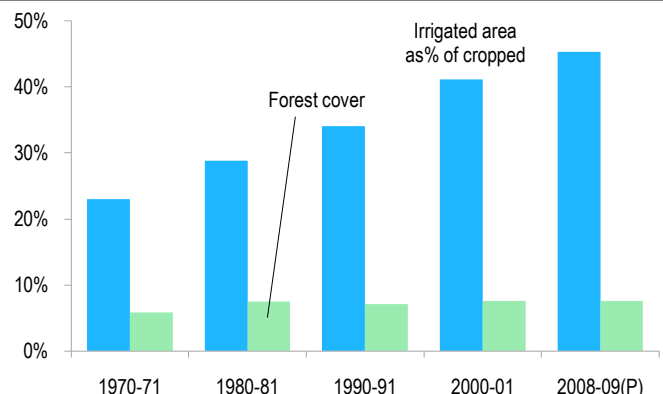
The macro question of how much forest or agricultural land the country needs should be kept separate from the issue of rehabilitation and resettlement. The government should decide on this based on an assessment of the sustainability of the growth process. Legislation on land acquisition is in the pipeline, and we think that once the impediments to acquiring land in a fair and transparent fashion are removed, the pace of infrastructure development will quicken significantly. Success stories of land transfers benefiting all parties will encourage others to replicate the model. This will be a key achievement not only from the perspective of infrastructure development, but also in addressing issues like economic and social inequality, employment generation, rural-urban migration, and urbanisation – all facets of the super-cycle.

Chart 1: Land for non-agricultural use remains stagnant
% of total area



Sources: Infrastructure Statistics 2010, Standard Chartered Research

Chart 2: Irrigation improves, but forest cover is an issue
% of total area



Sources: Infrastructure Statistics 2010, Standard Chartered Research

10. Innovation and entrepreneurship: The inspiration factor

- India's 'creative improvisation' has focused on operations and processes involving 26mn SMEs
- Existing technology has served India well, but more investment in innovation is required
- Entrepreneurial vision and global ambitions have been key to reaping the benefits of liberalisation

India's performance on standard innovation metrics may be poor, but creative improvisation and adoption of existing technologies have improved productivity

Based on traditional measures of innovation and creativity, India's global rankings are not encouraging. India is known for its large labour force, commonly referred to as 'perspiration', but less for 'inspiration', which defines the way in which people work through increased innovation and productivity. India ranked 56th in the Economist Intelligence Unit's innovation index for the 2004-08 period. According to World Bank data, India had only 137 researchers per million people, versus 852 in China. In terms of filing patents, India did not figure among the top 15 countries in 2009.

However, innovation need not be limited to accelerated invention of new technologies. Often, wider adoption of existing technologies can also bring the benefits of innovation. We believe that the concept of innovation has to be broadened in India's context because of the large share of the services sector in the economy and the presence of more than 26mn small and medium-sized enterprises (SMEs), which contribute 45% of industrial output and 40% of exports. In line with the predominance of the services sector, innovation in India is not concentrated in traditional R&D and manufacturing activities, but more in operations and processes.

In this context, the term *Jugaad* (creative improvisation) technology is fast becoming associated with innovation in India. This is not always a function of large-scale spending on R&D, but more often arises from providing unconventional, quick solutions within a constrained budget. The widespread adoption of *Jugaad* technology may have been a reason behind the improved productivity witnessed during the boom years of 2003-08.

Maintaining a low ICOR will be important in meeting super-cycle aspirations, especially with the share of industry likely to rise

India's productivity as measured by the incremental capital output ratio (ICOR) has been quite strong for the last 30 years. Except for the period from FY98-FY02 (under the 9th Five Year Plan), the ICOR has been close to 4 for the other plan periods; a low ICOR indicates high productivity. If the ICOR can be maintained at 4, an investment rate of 40% can yield a GDP growth rate of 10%. Sustained productivity growth can also provide a durable solution to persistent inflation. However, pegging the ICOR at 4 would require continuous productivity improvements because the overall capital intensity of the economy is likely to increase as the share of manufacturing in GDP rises. In that context, it should be noted that India's post-liberalisation labour productivity has improved significantly. Even total factor productivity (TFP) shot up at the beginning of the 2000s, possibly because of the gradual opening of the economy, the introduction of financial reforms, and increased penetration of computers. In our view, the next big driver of productivity, apart from technological development, could be the development of adequate infrastructure.

Adoption of technology, and innovation focused on developing better processes and providing unconventional cost-effective solutions, are the distinguishing features of innovation in India. This qualitatively different style of innovation may continue for some time; however, we doubt whether it will be enough to sustain productivity

growth in the long run. As per-capita income grows, discretionary spending needs will necessitate differentiation between products and services. In that context, the importance of innovation will increase.

R&D spending needs to increase as higher discretionary spending by consumers brings differentiation between products

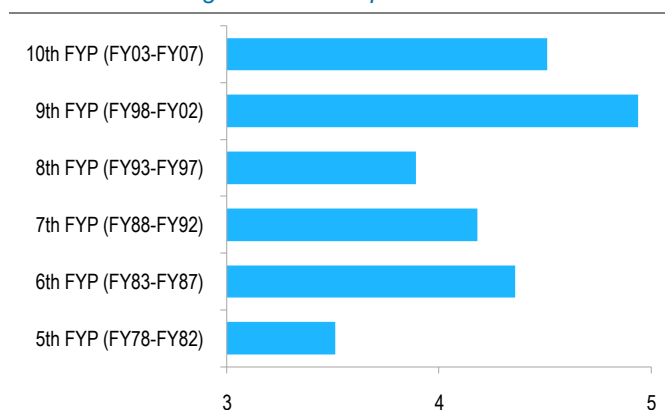
Also, as the share of manufacturing increases, R&D spending as a share of GDP (which is currently less than 1%) has to move towards the 2% mark, already achieved by China, and then towards 3%. This implies that annual R&D spending will have to increase from around USD 10bn in 2007 to about USD 600-900bn by 2030. Creativity in India should be further fostered by collaboration between industry and research conducted at educational institutions. India also needs to build innovation clusters to benefit from the cross-fertilisation of ideas. Better educational institutions will reduce the attraction for Indian researchers of moving abroad, and will in turn aid the development of innovation clusters. In this context it is important that, by 2020, India will have the world's largest population in the working-age group with tertiary education.

The combination of education, innovation and entrepreneurship has been a primary driver of development of the SME sector, with a particular focus on knowledge-intensive sectors

Innovation, education and entrepreneurship have often had a mutually reinforcing relationship in India. Ambitious entrepreneurs, through innovation or 'creative destruction', are able to generate employment opportunities, create wealth and contribute to economic growth. Historically in India, social networks have created informal entrepreneurial ecosystems among a few communities. However, in recent years, the dismantling of entry barriers, easier access to financing, the globalisation of the economy, institutional support to entrepreneurs, and the emergence of role models have all helped to promote entrepreneurship, particularly in the context of SMEs. It has flourished in knowledge-intensive sectors as opposed to traditional sectors like manufacturing and trading. We expect this trend to continue.

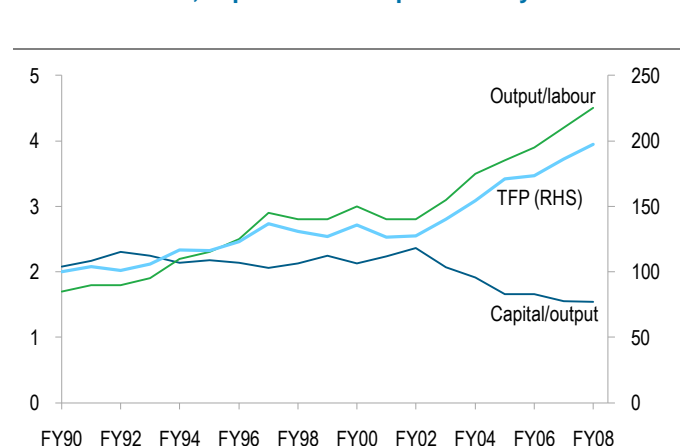
Entrepreneurial vision with global ambitions has enabled several Indian brands to become globally recognised. There are now 56 Indian companies on the Fortune 2,000 list, and three of the world's top 10 outsourcing companies are from India. The Indian diaspora has also set up businesses across the world; this globalisation process has further kindled the spirit of entrepreneurship in the domestic economy.

Chart 1: Consistently maintaining high productivity
ICOR trends during different FYP periods



Sources: CEIC, Standard Chartered Research

Chart 2: Labour, capital and total productivity



Sources: Annual Survey of Industries, Standard Chartered Research



11. Institutions: The bedrock of stability

- Democracy, freedom of press and religious pluralism are favourable initial conditions for India
- The judiciary has preserved property rights, but there is a need to speed up the judicial process
- Corruption issues are creating near-term headwinds, but these are likely to be transitional in nature

The role of institutions in meeting efficiency and equity objectives becomes paramount in a democratic system

Institutions play a multitude of roles in a market economy, striving to meet both efficiency and equity objectives. To create the ideal environment for private business activity to flourish, institutions (the judiciary, the bureaucracy and the police) need to protect property rights and ensure that contracts are honoured within the ambit of the law. In some instances, institutions (such as securities or insurance regulators) are required to regulate markets when market failure prevents the economy from achieving social objectives. Some institutions, like the central bank, provide macroeconomic stability; business activities prosper in a less volatile environment. Last but not least, the institution of democracy plays a crucial role in redistributing wealth and managing conflicts.

India is the largest democracy in the world, with 3mn elected representatives, of which 1mn are women. Its multi-party system has ensured a pluralism of opinion and acted as an outlet for adverse public opinion. Although some scepticism is developing among the urban youth over the effectiveness of the political system, more than 70% of the population still cast their votes in government elections. If a democratic structure is to be sustained, it is important to maintain the perception that every individual has the power to remove a non-performing government. This explains the focus on the 'inclusive growth' agenda of the present government, aimed at ensuring that the benefits of growth filter down to the lower socioeconomic classes.

With a strong democratic foundation, India is 'growing into' its political structure as it becomes a middle-income country

The process of adaptive learning and an emphasis on reaching consensus sometimes make the democratic process slow to react. However, they also make policy more predictable. Many countries have struggled for years to develop the key attributes of democracy – including political freedom, civil liberties, freedom of press, religious pluralism and minority rights. India is already well endowed with these virtues, and we believe that these favourable initial conditions will play an important role in attracting investors over the course of the super-cycle. Indeed, in many ways, India could be seen to be 'growing into' its political structure as it becomes a middle-income country.

The democratic nature of the country should be seen in the context of its federal structure. The three-tier structure of central, state and local bodies will be the cornerstone of policy formulation and implementation over the course of the super-cycle. The key will be to keep a healthy dialogue running between them without getting bogged down in an ideological stalemate.

In the Indian context, the preservation of property rights and private contracts under the legal system is a time-tested norm. The appointment of judges to the Supreme Court has been mostly free from the influence of political leaders, and some of the court's judgments on issues of public interest have even sparked debate on whether the judiciary is encroaching on the domain of the executive. However, the speed of delivering justice has been an issue for the Indian legal system, particularly in the lower courts. If the appointment of more judges and improved use of technology can



expedite the legal process, the judicial system can serve as a key platform to boost private investor sentiment over the super-cycle.

Corruption, caused by bureaucratic delays and a misaligned incentive structure, needs to be addressed squarely

India's extremely large bureaucracy is a colonially inherited institution. A veritable army of about 10mn people is employed in the system, though only about 80,000 of them are in decision-making roles. Although the size of the bureaucracy is likely to shrink over the course of the super-cycle, the importance of the bureaucratic institution in delivering public services and creating conditions conducive to business development over the next two decades cannot be ignored.

The bureaucracy and various democratic institutions in India have often been accused of being corrupt. However, corruption is often a by-product of a misaligned incentive structure. A private study found that a customs inspector in India was paid only INR 9,000 (about USD 200) a month in 2007 (this amount has risen significantly since the pay revision for public-sector employees in 2008). Given that this official was handling INR 29mn worth of customs transactions every month, corruption amounting to even 0.1% of the transaction value would be three times his monthly salary. Apart from incentives, ineffective monitoring, the low probability of getting caught, and the low cost of punishment perpetuate corruption in the government machinery.

Important steps have been taken to address this issue. Technological modernisation of the operations of government departments has reduced rent-seeking behaviour in the public sector. This bureaucratic institution needs to be insulated from political interference; fresh talent, compensated competitively, needs to be infused on a regular basis so that the passion for public service does not fade. We believe the most important check on corruption in government establishments will be the widespread adoption of the Right to Information (RTI) Act. This is already having an impact. With the media taking an active role in bringing corruption to light, the RTI can become an effective deterrent of public corruption, assuming the judicial process is accelerated.

A vibrant democracy and an independent judiciary are institutions which have magnified the impact of small policy reforms

The fact that common Indians are now raising their voices against corruption is a positive development which, through a democratic process, should make a perceptible difference. A recent survey found that while 65% of people believed there was corruption in public services, only about 10% claimed that they themselves had paid a bribe. In our view, India is going through a transitional phase of cleaning up its institutions. There is an endogenous demand for such change. Headwinds arising from such a shake-up could moderate growth impulses in the near term, but we think that the long-term potential growth of the economy can only benefit from cleaner institutions.

Economic growth brings higher demand from institutions. If the growth in institutions lags this demand, this could seriously hamper the efficiency of institutions in generating a favourable business climate. India may have started with well-developed institutions, but it is important to ensure that they are nurtured and improved to meet growing needs. Institutions per se do not guarantee economic performance; however, the impact of any policy reform is magnified by the presence of better institutions.

12. Trade and capital flows: Fading boundaries

- Government needs to facilitate strong exports to diversify growth and limit C/A deficit risks
- Services-sector exports and remittances are also likely to mitigate current account risks
- Sustained large capital flows will be required to meet financing needs; composition should favour FDI

India's external trade is likely to increase substantially as the proportion of South-South trade rises over the super-cycle period

The transformation of world trade has been one of the key consequences of the current super-cycle as developing countries, particularly in emerging Asia, have opened up their economies. In our **Super-Cycle Report**, we forecast that world exports would reach USD 103trn in 2030, up from USD 16trn in 2010. South-South trade has risen from 7% of total world trade in 1990 to 18% now, and is likely to reach 40% by 2030.

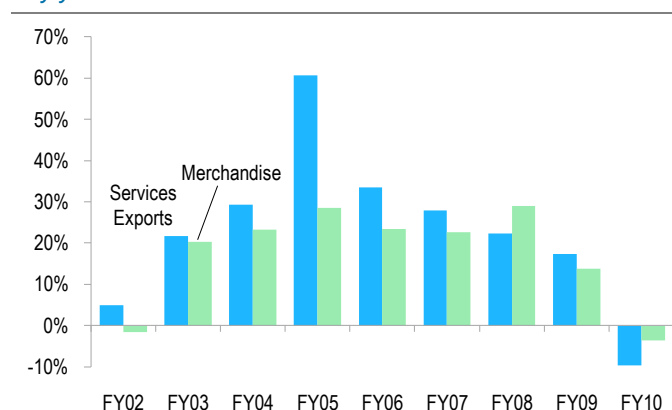
India has traditionally not followed an export-led growth strategy. Post-liberalisation growth in exports has been driven mostly by private-sector initiatives to seize global opportunities, although policy initiatives have helped. The need for policy action arose from the aspiration to push India's average annual growth above 9% and the need to diversify its growth drivers. Increased global competition was also expected to improve productivity in the economy. As a result, export growth averaged more than 20% annually between FY03 and FY08. The ratio of merchandise exports to GDP climbed from 6% in FY90 to 15% now, and is expected to reach 20% by 2030. Engineering goods and refined petroleum products now account for more than 40% of India's exports, while the shares of agricultural and other labour-intensive exports have progressively declined. Interestingly, though, the 12 items for which India has more than 5% of the world export share are still in the agri and labour-intensive sectors. Also, the share of exports going to North America and the EU (27% in FY11) has almost halved in the last decade, indicating a diversification towards more South-South trade. This diversification trend in products and markets is likely to be a key theme of India's exports over the next few years.

Duty rationalisation, SEZs, FTAs, emphasis on services exports and reduction in transaction costs will be elements of a successful export promotion strategy

Policy support to exports has mainly taken the form of reducing export duties and allowing duty-free imports for exporters. In FY10, duty foregone under various incentive schemes was close to 60% of notional revenues from trade. While the exchange rate regime is a managed float, it does not explicitly favour exporters.

Chart 1: Export growth – merchandise and services

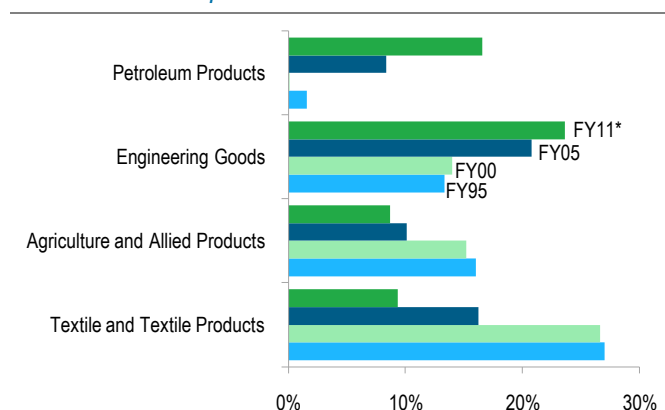
% y/y



Sources: RBI, DGFT, Standard Chartered Research

Chart 2: Moving up the value chain

% share of total exports



*Apr- Dec 2010;

Sources: DGFT, Standard Chartered Research

However, the Special Economic Zone (SEZ) Act of 2005 has facilitated more than USD 40bn of private-sector investment in SEZs. 580 such zones have been approved so far, of which 130 are operational. In FY10, SEZs accounted for 66% of manufactured exports and 21% of IT exports. SEZs are the way forward for India's export sector, but land acquisition bottlenecks need to be removed in order for approved zones to become operational.

Bilateral free trade agreements (FTAs) and comprehensive economic co-operation agreements (CECAs) are also important channels to increase India's exports. By 2009, India had negotiated, implemented or proposed 27 bilateral or regional FTAs and CECAs with countries and regional groups including ASEAN, Chile, Japan, Singapore, Korea and MERCOSUR. India's pace of adopting these FTAs has been relatively slow, however, because of concerns that cheaper imports from other countries could marginalise domestic manufacturers.

Challenges to export growth from protectionist pressures and the emergence of competitors need to be addressed

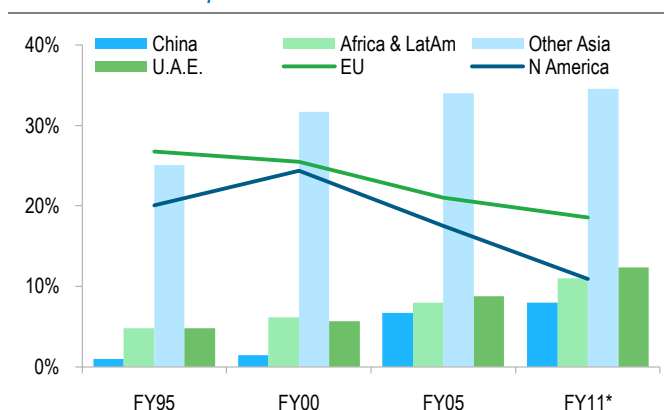
A recent report by India's Department of Commerce also found that the country loses around USD 13bn annually because of high export transaction costs, primarily due to inadequate port infrastructure. If infrastructure issues are addressed and policy reforms aimed at promoting exports continue, India could potentially be exporting close to USD 6trn annually by 2030. Its comparative advantage in services exports is likely to add to this momentum. Services exports crossed the USD 100bn mark in FY09, with software services accounting for close to 50%. However, China is now challenging India's dominance in this field. There is also the risk of protectionist measures in some countries to reduce outsourcing of these services. India's services trade balance faces pressure from rising imports; the surplus is likely to have stayed close to USD 50bn in FY11, the same level as in FY09.

India also needs to encourage exports in order to keep the current account deficit within an acceptable limit (3% of GDP is policy makers' comfort level). India's import dependence is unlikely to be reduced drastically given that crude oil makes up close to 33% of its total imports. However, growth in imports of machinery and electrical/electronic goods can be contained if India is able to develop its own manufacturing capabilities.

Remittances from the 5.5mn Indian overseas workers are a mitigating factor for the current account deficit. India already receives the highest remittances in the world, at

Chart 3: A move away from developed markets

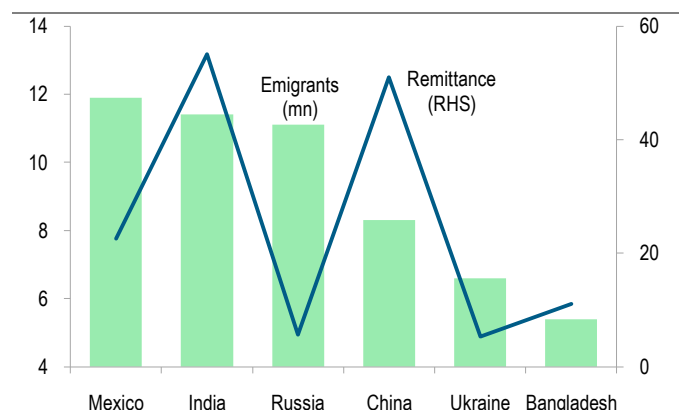
% share of total exports



*April-Dec 2010; Sources: DGFT, Standard Chartered Research

Chart 4: Remittances are the highest in the world

USD bn



Sources: World Bank, Standard Chartered Research

USD 55bn in 2010. With increasing population pressure at home, more workers are likely to seek jobs in the global market, keeping remittance flows buoyant.

A current account deficit of close to USD 600bn by 2030 will require substantial capital flows to fund it; a policy-induced shift in the composition of capital flows to more stable sources should be a priority

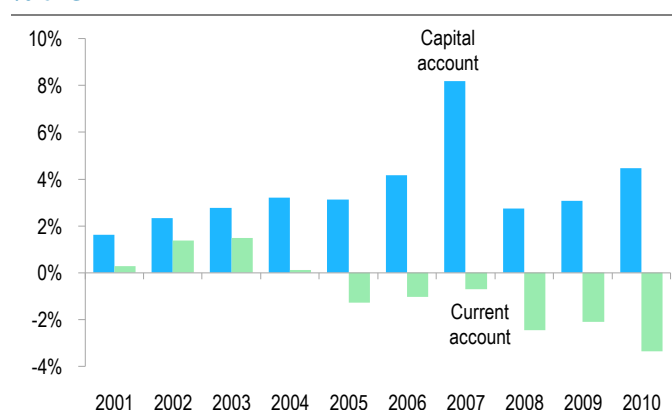
Even so, India will remain dependent on substantial capital flows to fund its current account deficit, which will be close to USD 600bn by 2030 if our growth assumptions are correct and the deficit is reduced to 2% of GDP. The opening up of India's capital account started only around the beginning of the last decade. Policy makers' preference has been to allow more equity flows than debt flows. Portfolio investment in equity markets and FDI in most sectors have been fully deregulated, but borrowings by companies are subject to quantity and price restrictions. In practice, volatile components of the capital account far exceed stable ones, and this remains a worry for policy makers.

Gross FDI inflows jumped from just USD 3bn in 2000 to USD 43bn in 2008, when foreign companies reached out to a wider market in search of higher returns. However, in our view, the precipitous fall in gross FDI inflows (to USD 24bn in 2010) requires urgent policy attention. If India's infrastructure goals are to be fulfilled, procedural bottlenecks in FDI to this sector need to be removed. The government's inability to push ahead with the relaxation of FDI caps in sectors like multi-brand retail and insurance has also dampened FDI inflows. Net FDI inflows as a proportion of net FII inflows averaged close to 40% between 2003 and 2007, but this dropped to just 28% in 2010. We think that this ratio needs to improve substantially over the next decade, to more than 100%, in order to change the composition of capital flows decisively.

Given India's inevitable dependence on large capital flows, policy makers need to be flexible in addressing volatility in capital flows driven by global factors

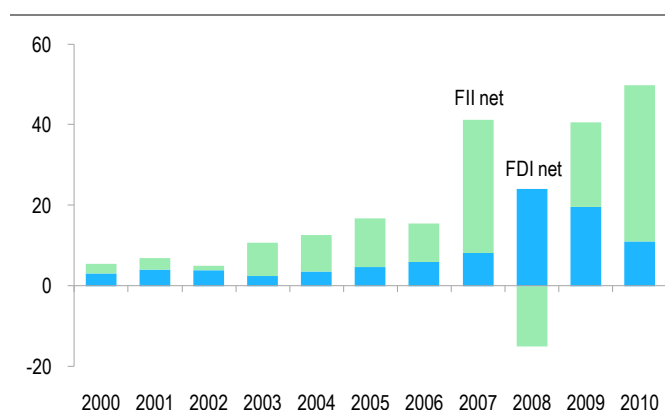
India has been averse to issuing US dollar-denominated sovereign debt. However, in the recent past, policy makers have substantially opened the window for foreigners to invest in corporate debt. We think that further opening will be needed as the corporate debt market develops further. The capital account-to-GDP ratio rose to around 8% before the financial crisis. If the capital account surplus is maintained at around 4-6% of GDP, India will be able to meet its investment needs without worrying too much about currency appreciation or sterilisation needs (assuming the current account deficit remains in the 2-3% of GDP range). However, global liquidity cycles are likely to make capital flows non-uniform and unpredictable. Policy makers will therefore have to remain flexible with their policy toolkit to smooth out the impact of such volatility.

Chart 5: C/A deficit worsens, but capital account cushions the impact
% of GDP



Sources: RBI, Standard Chartered Research

Chart 6: Composition of capital flows is worrisome
USD bn



Sources: RBI, Standard Chartered Research



13. Financial markets: Making a global mark

- India must hasten financial liberalisation to effectively tap financial intermediation opportunities
- Diversification of financing sources for industry and deeper capital markets are key in this regard
- We expect India's FX and bond markets to complement its strong position in equities by 2030

Diversification and liberalization of the financial sector should pick pace during the super-cycle

It has been argued that financial reforms contributed significantly to India's spectacular growth performance between 2003 and 2008. The challenge ahead is for key stakeholders – policy makers, regulators and financial institutions – to work together to strengthen the financial sector, in order to productively channel growing domestic savings and increase the country's capacity to absorb foreign inflows. Banks will play an important role in this process, as we expect them to continue to be the mainstay of India's financial architecture over the next 20 years. However, to efficiently tap the financial intermediation opportunities presented by increased economic activity, India must hasten the pace of deregulation and liberalisation.

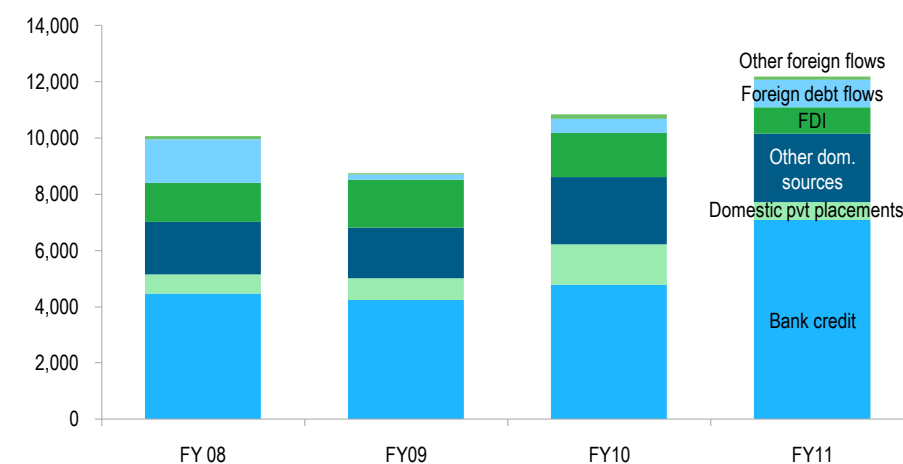
Currently, a very high proportion of banking-sector credit is directed towards infrastructure financing. It is difficult for the banks to maintain such a high growth rate on long-term loans when most of the liability raising happens at the shorter end, particularly in a global environment where banks' funding and liquidity are under close scrutiny. Indian banks are also constrained by single-sector and single-borrower exposure limits on their lending to infrastructure.

Specialised financing institutions should share the burden of infrastructure financing with banks, to enable flow of credit to other sectors and individuals

Therefore, specialised infrastructure financing companies and funds need to be set up to refinance some bank loans, and banks' exposure limits need to be relaxed. Further consolidation of the banking system and greater private participation – both domestic and foreign – would be also helpful. Steps have already been taken towards creating infrastructure funds, but more needs to be done. Pension and insurance companies need to be encouraged to finance infrastructure needs, as they would not suffer from the maturity mismatch that the banks face.

Chart 1: Industry financing burden on bank credit should ease

Sources of finance for the commercial sector, INR bn



Sources: RBI, Standard Chartered Research

India in the Super-Cycle

Development of the banking sector needs to be complemented by deep and resilient capital markets for effective financial intermediation

The other important aspect of financial development is to build deep and resilient capital markets. Though significant progress has been made on this front for equity markets, India's fixed-income and currency markets remain underdeveloped in terms of availability of instruments and accessibility. Over the next couple of decades, we foresee substantial development of these two segments, complementing India's strong position in equities.

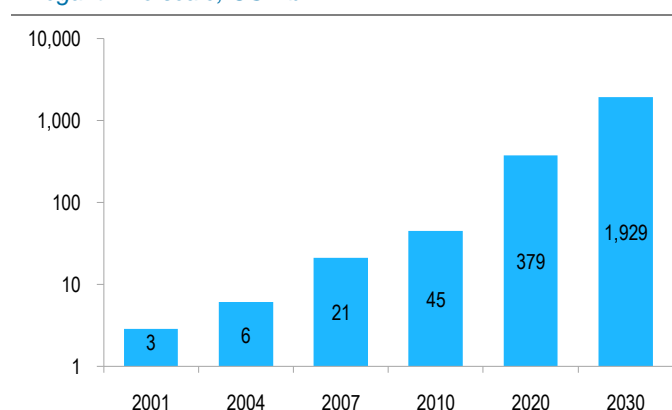
Equity markets: We expect the ratio of market capitalisation to GDP to be maintained at close to 100% over the next two decades, resulting in a market cap of close to USD 30trn by 2030. At present, only about 1% of the population has equity-market exposure, so the catch-up potential is huge. With a larger investor base, India could emerge as a leading regional financial-services hub. The cost of raising capital in such a liquid market is also likely to be low, enabling the rapid growth of Indian companies envisaged over the course of the super-cycle.

Bond markets: In our earlier **Super-Cycle Report**, our analysis of the relationship between savings rates, the starting sizes of domestic debt markets, and their growth indicated that Asian debt markets are likely to evolve like Germany's. Following a similar analysis, we believe that by 2030, the size of India's bond market (corporate and sovereign combined) will be about 67% of GDP, or USD 20trn. Although the size of the overall bond market relative to GDP is expected to shrink from current levels, the overall mix (currently at 73% for sovereign debt and 3.5% for corporate debt) should improve, with sovereign debt falling to 50% of GDP and corporate debt outstanding rising to 17%. This would mean a CAGR of 25% for the corporate bond market over the next 20 years.

Bond and FX markets are expected to emulate the growth in Indian equities during the super-cycle

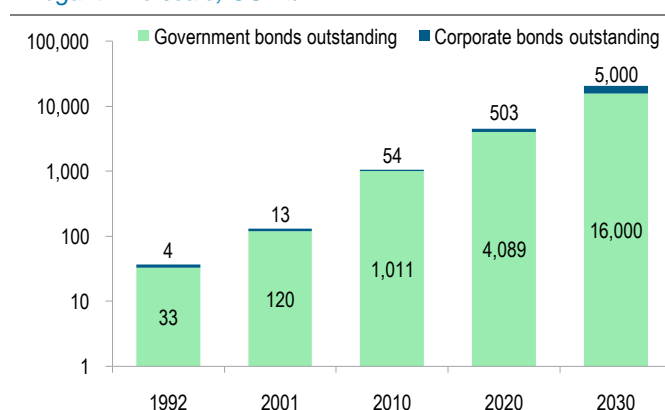
FX markets: India has witnessed rapid growth in daily turnover in the FX market over the last decade. The Indian rupee (INR) had daily average turnover of USD 44.7bn in 2010, ranking 15th in terms of its share of the average daily turnover of global FX markets. We estimate INR turnover at USD 1.9trn by 2030, chiefly driven by a more open economy and rising volumes of exchange-traded currency derivatives. If rising trade volumes and gradual capital convertibility bring about such an explosion in FX volumes, we would not be surprised to see the INR emerge as a minor reserve currency by 2030.

Chart 2: FX volumes likely to rise as the economy opens
In logarithmic scale, USD bn



Sources: RBI, BIS, Standard Chartered Research

Chart 3: Share of corporate bonds expected to increase
In logarithmic scale, USD bn



Sources: RBI, Standard Chartered Research

14. Inequality: Bridging the chasm

- Uneven access to education, health and jobs has accentuated inequalities in India
- A lack of progress in addressing these issues could lead to negative perceptions of the reform process
- A concerted effort is urgently needed to reduce such inequalities while sustaining growth

Regional inequalities remain stark: while the BIMAROU states are home to about 46% of India's total population, they contribute only 30% of GDP

The relationship between inequality and growth is complex. Some inequalities (like skill differences) increase the incentive to work harder or invest more, but others (such as geographic poverty traps, patterns of social exclusion, and lack of access to credit and insurance) prevent individuals from connecting to markets, limiting investment and the accumulation of human and physical capital. Such inequalities leave segments of the population with limited access to opportunities, reducing their contribution to overall growth. The persistence of such inequalities can also give rise to negative perceptions of the success of the reform process, and more disruptive outcomes in the form of social unrest cannot be ruled out.

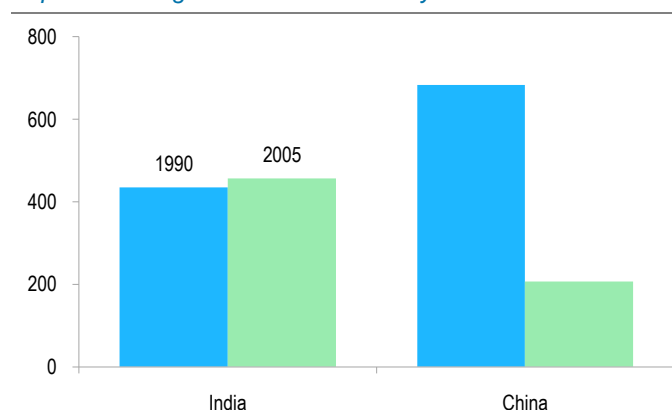
The risk to India's sustainable growth emanates from such 'bad inequalities', which have increased since the 1990s. For instance, while China reduced the number of people living on less than USD 1.25 a day from 683mn to 208mn in the 15 years to 2005, India added 20mn, leaving 455mn people below this poverty threshold. Below, we discuss the various manifestations of India's economic and social inequalities, and the need for a concerted policy focus to reduce them.

Regional inequalities

Regional inequalities in India are stark. The country's richest areas are similar to South East Asia in terms of development, while the poorest resemble Sub-Saharan Africa. The rest fall in between the two.

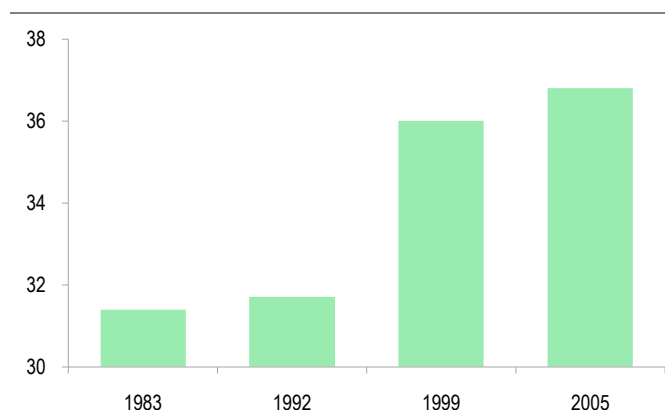
India has 28 states, and almost 64% of those living below the poverty line are from eight of them: Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Rajasthan, Orissa, Uttar Pradesh and Uttarakhand (popularly known as the BIMAROU states, or 'sick states'). The BIMAROU states are home to almost 46% of India's population but contribute only 30% to GDP. With 47% of the country's least educated workers residing in these states, their dependence on stagnant agriculture is high.

Chart 1: India has added more poor
Population living below USD 1.25 a day



Sources: World Bank, Standard Chartered Research

Chart 2: Income inequality has increased since the 1990s
Gini coefficient



Sources: World Bank, Standard Chartered Research

Per-capita income in these states is about half that of the more developed states. For instance, Bihar's FY10 per-capita income was only one-quarter of Punjab's. Similarly, the incidence of reported crimes in Uttar Pradesh, at 1.595mn, was almost five times higher than Maharashtra's 0.316mn in a similar timeframe.

Even within individual states, the widening urban-rural divide has manifested itself in increased violence. The Naxalite-Maoist insurgency is one such instance. Poor and neglected rural people in the eastern part of the country who do not have agricultural land or jobs are resorting to violence against the government. This has emerged as the greatest challenge to India's internal security in the recent past.

Income inequality

37.2% of India's population is below the poverty line

India still has 447mn people, or 37.2% of its population, living below the poverty line – defined by the government as those with monthly expenditure of less than INR 446 (USD 10) in rural areas and INR 578 (USD 13) in urban areas. On the other hand, according to *Forbes* magazine's recent list of billionaires, India is home to the third-largest number of billionaires in the world – 69 in 2010, up from 13 in 2004 – with wealth totalling approximately 25% of GDP. This clearly illustrates the concentration of wealth in the hands of a few people.

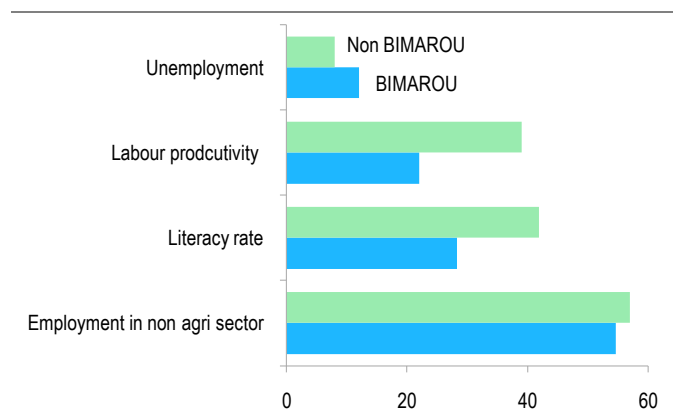
India has more equal wealth distribution than other countries – its income Gini Coefficient, at 0.368 (as of 2004), is better than those of China (0.469 in 2004), the US (0.464 in 2004) and Brazil (0.564 in 2005). However, increasing inequality, especially since the reforms of the 1990s, and a relatively large number of poor people threaten the country's social fabric. India had 456mn people living on less than USD 1.25 a day in 2005, versus China's 208mn.

Social inequality

Socially disadvantaged segments of society, especially 'scheduled castes' and 'scheduled tribes' (SCs and STs), have gained little from India's new prosperity because they have lacked access to assets, skills and higher education. STs have also frequently been victimised by activities such as mining in the mineral-rich tribal belt, which has resulted in increasing displacement, especially in the north eastern and BIMAROU states. The gender gap in social and economic status has also traditionally been wider in India than in other societies. Women's participation in the labour force is still low, and they receive lower pay than men for the same tasks despite similar qualifications.

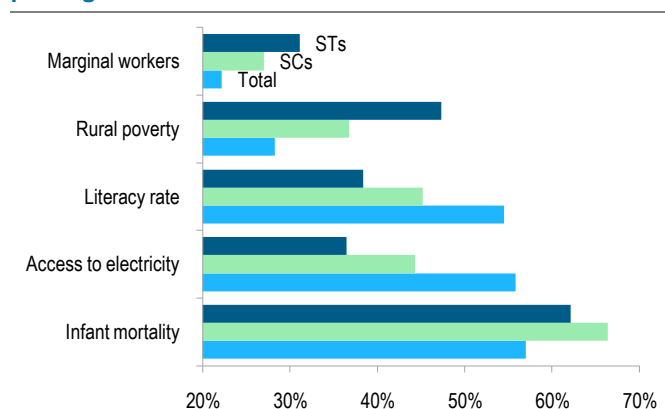
Chart 3: Inequality across states is significant

%



Sources: Various sources, Standard Chartered Research

Chart 4: Scheduled castes and scheduled tribes are less privileged



Sources: Census 2001, NFH Survey, UN Economic & Social Council, Planning Commission, Standard Chartered Research

Various manifestations of inequality are closely interlinked; uneven access to education, health and jobs is responsible for all forms of inequality

This discussion highlights three points: (1) Uneven access to education, health and jobs is responsible for the various inequalities which exist in India today. (2) Various manifestations of inequalities are interlinked. For instance, the eight BIMAROU states are home to large proportions of India's poor (64%), socially disadvantaged (40%) and women (45%). (3) If India is to enjoy the fruits of growth, the government must step up efforts to strengthen the enablers of education, health care and jobs – especially in the BIMAROU states, where both social inequalities and the demographic boom are concentrated.

This represents a Herculean task for policy makers. GDP in the BIMAROU states would have to expand at a CAGR of 22% until 2030 (far above today's national average nominal GDP growth of 14%) in order to eliminate regional inequalities. They would have to maintain a CAGR of at least 16% to avoid further widening the per-capita income gap between the states. The aggregate growth rate for the BIMAROU states masks wide variations among the states. For instance, Bihar will require a GDP CAGR of 26%, much higher than the average for the bloc.

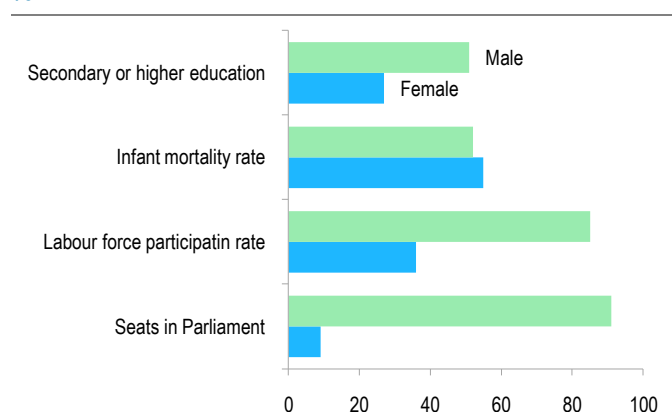
While efforts by policy makers will be important, the less developed states will have to adopt more market-friendly measures to realise their potential

A concerted government effort to strengthen the enablers of health care, education and job creation is crucial to reducing these inequalities. The recently passed Right to Education Act and employment guarantee scheme were commendable steps towards this goal. However, much more is required. The government needs to complement efforts on health care, education and job creation by increasing investment in agriculture and raising the manufacturing share of GDP. Execution will be equally important. For instance, if the BIMAROU states adopt market-friendly measures, they could have huge catch-up potential given their rich endowment of natural resources (see Chart 6). The right policies could help these states to capitalise on the expected commodity boom in the next two decades.

It is important to recognise that adopting the right policies will not completely eliminate disparities between the India's rich and poor. However, without some success in reducing various inequalities, sustaining growth will be a challenge. In a democratic system, demands for a more equal society will be even greater, and the inability of policy makers to deliver could disrupt growth. Thus, the objective should be to ensure that by 2030, existing disparities are far less stark and oppressive than they were at the turn of the millennium.

Chart 5: Gender inequality remains

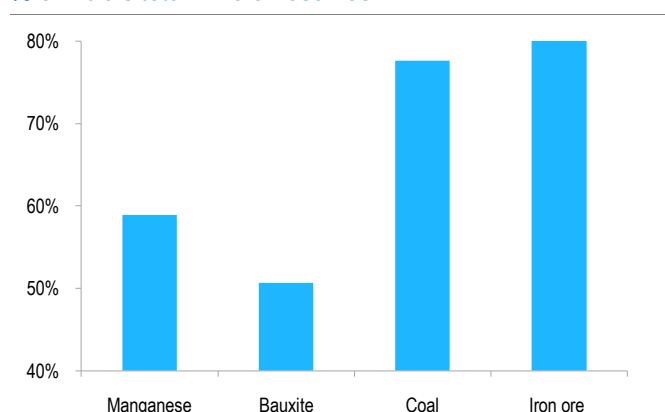
%



Sources: HDI 2010, Standard Chartered Research

Chart 6: BIMAROU states are rich in minerals

% of India's total mineral reserves



Sources: Government of India, Standard Chartered Research

15. Energy and environment: Securing the future

- India to remain a net importer of energy through the super-cycle; fossil fuels to dominate fuel mix
- Economic costs of higher imports may be considerable, while fossil fuels pose environmental concerns
- Increasing energy efficiency and diversifying primary energy sources would mitigate risk

India's per-capita energy consumption is likely to exceed 1toe by 2030, up from 0.54toe in 2008, exacerbating the domestic demand-supply mismatch

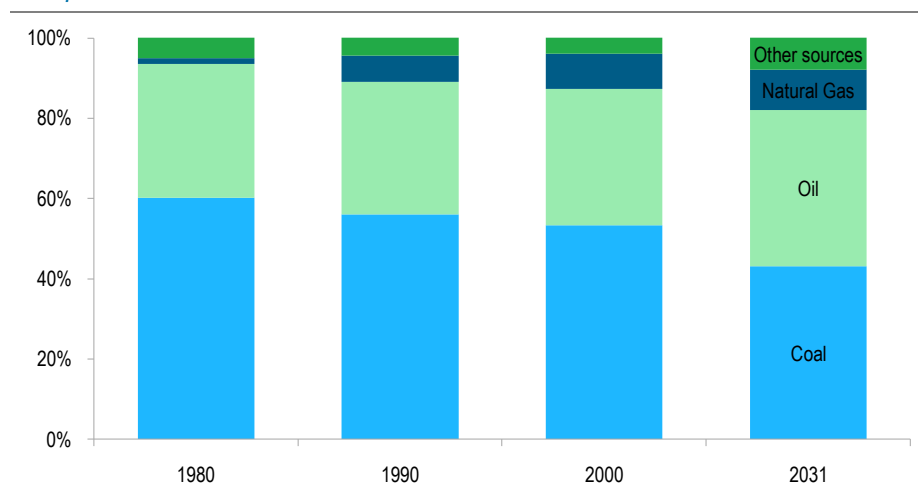
India's per-capita energy consumption is among the lowest in the world. According to the International Energy Agency (IEA), India consumed only 0.54 tonnes of oil equivalent (toe) per person in 2008, compared to the world average of 1.83. This is partly because India's growth is largely driven by services, which are less energy-intensive. Over the course of the super-cycle, we expect industry's growing share of GDP and greater urbanisation to push India's energy consumption significantly higher. We estimate that India's primary commercial energy consumption will increase at an average annual rate of at least 5.8% for the next couple of decades, and per-capita primary energy consumption will exceed 1toe by 2030.

From an end-use perspective, the increase is expected to be primarily driven by power generation and transport requirements; this implies that fossil fuels will continue to dominate India's energy mix. According to the Integrated Energy Policy Report (IEPR), the share of renewables in the fuel mix is likely to remain marginal, at 5-6%, even by 2030. Within fossil fuels, the shares of coal and oil may shrink, while that of natural gas will increase. However, coal is likely to dominate the energy mix through 2030 due to indigenous resources and cost-effectiveness considerations.

That said, supply challenges will be considerable. Despite India's large coal reserves, the domestic market balance has deteriorated due to a low share of prime coking coal reserves and delays in mine allocation and exploration. The situation is even worse for oil, where India has only 0.4% of the world's proven reserves and imports 78% of its demand. The availability of natural gas has increased following the recent large discovery in the Krishna-Godavari basin, but the production ramp-up has disappointed so far.

Chart 1: Fossil fuels to dominate India's energy mix through 2030

% of production



Sources: IEPR, Standard Chartered Research

Rising energy imports and high usage of fossil fuels pose economic and environmental risks

Given these factors, India's reliance on energy imports is likely to grow, with significant implications for global energy prices and India's external and fiscal health. We estimate that every USD 1 increase in the oil price currently widens the current account deficit by USD 1bn. With an increasing volume of oil imports, the deficit will deteriorate even more. The IEPR defines the purpose of energy security as ensuring "continuous availability of commercial energy at competitive prices." Availability of raw materials for energy supply is unlikely to be a major hurdle, in our view. However, India's growing import dependence in an environment of rising commodity prices means that ensuring "competitive prices" for energy might squeeze corporate margins. High prices also imply that subsidies for energy use for non-commercial purposes are likely to continue. The 2010 report by the Kirit Parikh Committee on a Viable and Sustainable System of Pricing Petroleum Products projected that the losses of public-sector oil-marketing companies could rise to INR 9.8trn by FY31 from 0.5trn in FY10 if oil prices stay around USD 150/barrel and the government continues to subsidise retail fuel products. However, better identification of the beneficiaries of subsidies via the government's planned Unique ID scheme should lessen the subsidy burden.

Environmental concerns also need to be taken into account. Today, India's total CO2 emissions are around only 4% of the global total. In addition, climate modelling studies have shown that even with GDP growth of 8-9% over the next couple of decades, India's per-capita emissions can be contained at 3-3.5 tonnes, which is well below developed-country estimates. Still, the high content of fossil fuels in India's energy mix is cause for concern in terms of environmental management. The problem of a lopsided energy mix becomes more acute given that 48% of the country's nine major coal-mining areas have been named 'no-go' zones (areas where mining will not be allowed because of environmental concerns).

Managing final demand and diversifying primary energy sources are crucial to achieving long-term energy security

Hence, there is a need to manage final demand and diversify primary energy sources to limit both environmental and supply challenges. Key in this regard are power-sector reforms that promote efficient electricity consumption. This requires a three-pronged approach of reducing power costs, plugging electricity transmission losses, and enhancing energy-efficient household usage. Policy intervention is required to increase the shares of other energy sources, such as natural gas. The share of natural gas in India's energy mix is only around 12% currently, compared to the global average of 24%. The outlook is similar for other energy sources, such as hydro and nuclear power. According to the IEPR, if India is able to tap its vast thorium resources, it may achieve energy self-sufficiency and security by 2050.

Table 1: India's projected primary energy requirement in 2030 (mtoe)

	Range of requirements	Assumed domestic production	Range of imports	Imports (%)
Oil	632-1,022	560	72-462	11-45
Natural gas including coal bed methane (CBM)	350-486	35	315-451	90-93
Coal including lignite	100-197	100	0-97	0-49
Total commercial primary energy sources	1,351-1,702	-	387-1,010	29-59

Sources: Integrated Energy Policy Report 2006, Standard Chartered Research

Appendix

The unfinished reform agenda

	Comments
1. Productivity growth	<ul style="list-style-type: none"> Developing world-class infrastructure – particularly in power, roads and ports – would go a long way towards improving productivity. The virtuous cycle of skill development, innovation and entrepreneurship is important to pushing India up the manufacturing value chain. Academic curriculum needs to change to encourage out-of-the-box thinking, and needs to be complemented with vocational training. Laws and regulations need to be put in place to propagate and maintain India's image as a safe investment location, especially if private-sector participation is to increase.
2. Labour reforms	<ul style="list-style-type: none"> Improved employment conditions (employability of labour) would foster productivity in the manufacturing sector, along with human-resources development. Flexibility to hire and fire is needed to allow larger firms to develop and benefit from economies of scale and advanced technology. Minimum working conditions and a social safety net can help to safeguard workers' interests.
3. Land reforms	<ul style="list-style-type: none"> Land reforms should balance development priorities and environmental concerns. Computerisation of land records would improve land administration, facilitating smoother land transfers. A well-defined and dynamic compensation/resettlement model would help to alleviate concerns about inadequate compensation for land acquisitions. The proposed land acquisition bill aims to address such issues.
4. Fiscal reforms	<ul style="list-style-type: none"> Spending priority needs to shift from wasteful subsidies to asset creation. Impending implementation of GST and DTC can boost revenue generation. Effective monitoring to avoid tax evasion and better utilisation of funds allocated for expenditure/investment are needed.
5. Financial reforms	<ul style="list-style-type: none"> Private investment, crucial to India's development, requires development of the corporate bond market, pension and insurance sector, and gradual opening up of the capital account. Limits on foreign participation need to be relaxed in sectors like insurance and retail. Higher level of financial education and introduction of more sophisticated financial products are important to increasing financial leverage in the economy. Financial inclusion by bringing a wider section of population into the banking net is important; banking-sector consolidation could facilitate this.
6. Simplification of institutional framework	<ul style="list-style-type: none"> Plethora of bureaucratic procedures across various departments increases transaction costs; more streamlined procedures and better dissemination of information are required. Adoption of technology at various levels can expedite these processes. Regulatory overlap needs to be reduced to lessen uncertainty and confusion for investors. Introduction of Unique Identification (UID) number can help to achieve the government's 'inclusive growth' objective by better identifying vulnerable segments of society.
7. Judicial reforms	<ul style="list-style-type: none"> Adoption of technology and expansion of judicial staff are necessary to handle the large number of pending cases. Delivery of judgments within a reasonable timeframe and increased accountability of judges would strengthen investor confidence. Dedicated benches – for instance, to deal with accident cases, financial litigation and other types of cases – would help to expedite processing of more serious criminal cases.
8. Anti-corruption measures	<ul style="list-style-type: none"> Misaligned incentive structure needs to be corrected to reduce corruption. The process of complaint registration, prosecution and delivery of justice should be simplified and made more effective in order to tackle corruption. Dedicated fast-track legal process is needed to tackle corruption cases. The Jan Lok Pal (JLP) bill being drafted by a joint committee of politicians and activists proposes such changes and could significantly improve the accountability of public servants. Adoption of technology would reduce rent-seeking behaviour by reducing manual interference.



India then and now

Year	FY00	FY11
GDP (USD bn)	450	1,728
Per-capita income (USD)	450	1,200
% share of GDP		
<i>Industry</i>	25	28
<i>Services</i>	50	58
<i>Agriculture</i>	25	14
<i>Consumption</i>	64.2	57.6
<i>Investment</i>	25.9	35.8 (FY10)
<i>Exports</i>	11.7	20.6
<i>Imports</i>	13.6	26.5
<i>Savings</i>	24.8	33.7 (FY10)
Inflation (%)		
<i>WPI</i>	3.3	9.5
<i>CPI</i>	3.4	10.5
<i>Food inflation</i>	2.8	11
<i>Core inflation</i>	3.1	5.9
Average rates	FY00-FY05	FY06-FY11
Growth (%)		
<i>Real GDP</i>	6.0	8.6
<i>Industry</i>	6.4	8.7
<i>Services</i>	7.9	10.2
<i>Agriculture</i>	2.0	3.5
<i>Consumption</i>	4.9	8.2
<i>Investment</i>	11.7	12.2
<i>Exports</i>	16.4	12.1
<i>Imports</i>	10.4	15.2
Inflation (%)		
<i>WPI</i>	4.9	6.2
<i>CPI</i>	3.9	8.2
<i>Food inflation</i>	2.7	8.5
<i>Core inflation</i>	3.9	4.1

India then and now

Year	FY00	FY11
Fiscal situation		
% of GDP		
<i>Fiscal deficit (central govt.)</i>	5.5	5.1
<i>Fiscal deficit (states)</i>	4.2	3.2
<i>Tax</i>	8.5	10
<i>Expenditure</i>	14.8	15.4
<i>Central govt.'s outstanding liabilities</i>	55.6	50.1
<i>States' outstanding liabilities</i>	26.1	26.3 (FY10)
% of total expenditure		
<i>Subsidies</i>	8.2	13.5
<i>Social expenditure</i>	7.9	13.4
<i>Expenditure on education</i>	2.4	4.6
<i>Expenditure on health</i>	1.7	2.2
<i>Interest payments</i>	30.3	19.8
<i>Defence payments</i>	15.8	12.5
External sector (USD bn)		
<i>Exports</i>	37.5	182.2
<i>Imports</i>	55.3	300.6
<i>Oil imports</i>	12.6	87.1
<i>Remittances</i>	12.2	52.0
<i>Software exports</i>	5.7 (FY01)	48.2
<i>Current account deficit</i>	-4.69	-38.3
<i>Current account deficit (% of GDP)</i>	-1.04%	-2.55%
<i>FDI inflows</i>	2.0	33.1
<i>FDI outflows</i>	0.07	14.3
<i>FII net inflows</i>	3.0	32.3
<i>External commercial borrowings</i>	0.3	2.8
<i>Short-term trade credit</i>	0.37	7.5
<i>Balance of payments</i>	6.4	13.4
<i>FX reserves</i>	38	303
<i>External debt (USD bn)</i>	98.3	297.5 (end-Dec 2010)
<i>External debt (% of GDP)</i>	22	16.9 (end-Dec 2010)
<i>Short term debt (% of total debt)</i>	4	21 (end-Dec 2010)
<i>Import cover of reserves (in months)</i>	8.2	11.2 (FY10)

India then and now

Year	FY00	FY11
Money & banking		
Reserve money (% y/y)	8.2	19.1
Money supply (% y/y)	14.6	16.0
Credit (% y/y)	18.2	21.4
Deposit (% y/y)	13.9	16.0
M3/GDP (%)	62.0	82.0
Credit/GDP (%)	22.3	53.0
Money multiplier	4.03	4.9
Gross NPAs as proportion of total assets	5.5	1.3 (FY09)
Financial markets		
FX turnover (daily average USD bn)	3 (2001)	44.7
Equity issues (INR bn)	33.68	581
Debt issues	711.47	2046.93 (FY09)
USD-INR exchange rate (average)	43.33	45.57
Interest rate (%)	9.15	5.72
(end of period)		
Government bond market size (USD bn)	120	1011
PE ratio (end of the period)	23.86	21.15
Market cap as % of GDP(end of the period)	46.0	87
Number of listed companies (BSE)	5,889	5,067
Number of listed FIIs	506	1,722
Total number of bank branches	65,898	79,735
Average population per bank branch	15	15
Food and availability		
% of consumption spending on food	48	35.3
Area under food-grain cultivation (mn hectares)	121 (FY01)	121.3 (FY10)
Food-grain productivity (Yield per hectare)	1,626 (FY01)	1,798 (FY10)
Irrigated area (% of total)	41.0(FY01)	45.3 (FY09)
Net production of food grains (mn tonnes)	178.2	205.2 (FY10)
Per-capita net availability of food grains (grams per day)	454.4	444 (FY10)
Milk production (mn tonnes)	78.3	112.5
Egg production (bn units)	30.4	59.8
Fish production (mn tonnes)	5.7	7.8

India then and now

Year	FY00	FY11
Electricity consumption per capita (KWh)	71.2	112.7 (FY09)
Cloth consumption per capita (metres)	30.6	43.1 (FY10)
Passenger car sales (mn units)	0.7 (2002)	2.4 (2010)
Internet users (mn)	5.5 (2000)	100 (2010)
Infrastructure		
End of period		
Installed power generation capacity ('000 MW)	112.6	187.9 (FY10)
Railway lines ('000 km)	63	64 (FY10)
Length of roads (km)	3,373.5	4,236.4 (FY08)
Length of national highways	57.7	66.8 (FY08)
Annual		
Railway passengers (mn)	4,833	7,245 (FY10)
Air Passenger traffic (domestic & international)(mn)	42.4 (2002)	137.6(2010)
Cargo handled at major ports (mn tonnes)	313.5 (FY03)	569.9
Cargo handled at all ports (mn tonnes)	421.8 (FY03)	849.9 (FY10)
Commercial vehicles production ('000 units)	173.5	566.6 (FY10)
Cement production (mn tonnes)	100.2	200.7 (FY10)
Energy generated(bn KWh)	532.2	906.0 (FY10)
Human development indicators		
Total population (bn)	1.05	1.22
% of population in working age group	58.6	61.8
% of population less than 25 years of age	54.2	49.7
% of females in total population	48.1	48.3
Unemployment rate	4.3	9.4
Gini coefficient	36	37('05)
Urbanisation rate	27.2	30.0
Primary school enrolment rate	94.1	116.9
Secondary school enrolment rate	46.1	60.2
Higher education enrolment rate	9.56	14.0
Infant mortality rate (per '000)	60.7	52.9
Life expectancy at birth	62.5	64.2

Sources: CEIC, DGFT, RBI, BSE, Economic Survey 2010-11, World Development Indicators

India forecasts

Table 1: Macro indicators *

	FY07	FY08	FY09	FY10	FY11	FY12F
Real GDP growth, %	9.6	9.3	6.8	8.0	8.5 (F)	8.1
Avg. WPI, %	6.5	4.8	8.0	3.6	9.5 (F)	8.4
Current account, % of GDP	-1.1	-1.3	-2.3	-2.9	-2.6 (F)	-3.2
FDI (USDbn)	7.7	15.9	19.8	18.77	11.0 (F)	15.0
FII (USD bn)	7.0	27.4	-14.0	32.4	31.9 (F)	21.3
Balance of payment (USD bn)	36.6	92.1	-20.0	13.4	16.7 (F)	17.5
Official budget balance, % of GDP	-3.5	-2.5	-6.0	-6.4	-5.1	-5.1
USD-INR**	43.6	40.7	50.7	45.1	44.6	44.0
Repo rate**	7.50	7.75	5.00	5.00	6.75	7.75
FX reserves, USD bn**	199.1	309.1	252.3	277.0	303.4	NA
GolSecs 10Y yield**	7.92	8.03	6.69	7.83	7.99	8.25

*Fiscal year ending in April; ** end-period; Source: Standard Chartered Research

Table 2: India's sovereign foreign-currency long-term debt ratings, 2000-10

Year	Moody's		Standard & Poor's		Fitch	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
2000	Ba2	Speculative	BB	Speculative	-	-
2001	Ba2	Speculative	BB	Speculative	-	-
2002	Ba2	Stable	BB	Negative	-	-
2003	Ba1	Stable	BB	Negative	-	-
2004	Baa3	Stable	BB	Stable	-	-
2005	Baa3	Stable (M)*	BB+	Stable	BB+	Stable
2006	Baa3	Stable	BB+	Positive	BBB-	Stable
2007	Baa3	Stable	BBB-	Stable	BBB-	Stable
2008	Baa3	Stable	BBB-	Stable	BBB-	Stable
2009	Baa3	Stable	BBB-	Negative	BBB-	Stable
2010	Baa3	Stable	BBB-	Stable	BBB-	Stable

* M indicates multiple or differing outlooks

Source: Ministry of Finance



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