Naukri.kum

"23 lakh apply for 368 peon posts in Uttar Pradesh. (The Hindu, September 17, 2015): Over 23 lakh candidates, including 2.22 lakh engineers and 255 Ph.D. holders have applied for 368 posts of peon in the State Secretariat. Thousands of candidates with Master's Degree in Commerce, Humanities and Sciences are also among the applicants, something which indicates the gravity of the unemployment situation…"

Growth is just one chapter in India's unfolding story. How the story progresses depends just as much on the optimum utilization of its demographic bounty. This entails a whole bunch of things - creating adequate number of jobs, training the young workforce, improving the education system and implementing policies that make it easy to both employ and make in India.

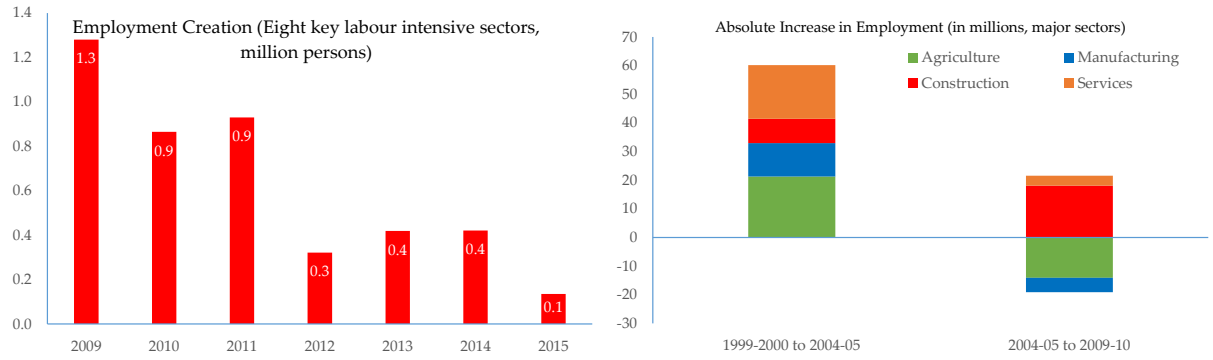
In this report, we highlight the legacy issues that have constrained the full-fledged development of manufacturing sector in India - often regarded as an important reason behind subdued job growth in the country. We also seek to identify the ideal mix of industries both for the long term and the imperatives of the short term. We discuss the role of the service and farm sector as job providers, as well as the shortcomings and ideal structure of a skilling strategy. We believe that a two-track skilling strategy, one focused on creating a long term skill base and the other that can ensure employability in the relatively near term is the only way out.

Vibrant growth, where are the jobs?

An eight-sector metric of employment in India published by the Labour Bureau showed that job growth in India slumped to a six-year low in 2015. In the 2000 units covered under the survey (for eight selected industries), only 0.1 million jobs were created last year, compared to 0.4 million jobs created in 2014 and even worse than the former low of 0.3 million in 2012 (Figure 1).

There could be some quibbles about how representative the data is - the Quarterly Employment Survey (QES) on which this number is based by the Labour Bureau is not comprehensive in terms of coverage. However it is the only measure that is somewhat current and permits an inter-temporal comparison of India's labour market conditions. Combined with some of the long-term statistics available, it reflects of an intensifying problem – the inability of growth to produce employment.

Figure 1: Both high frequency and long-term data points to slowdown in employment creation



Source: CEIC, NSS Employment Surveys, Planning Commission Report on Employment and Skill Development and HDFC Bank

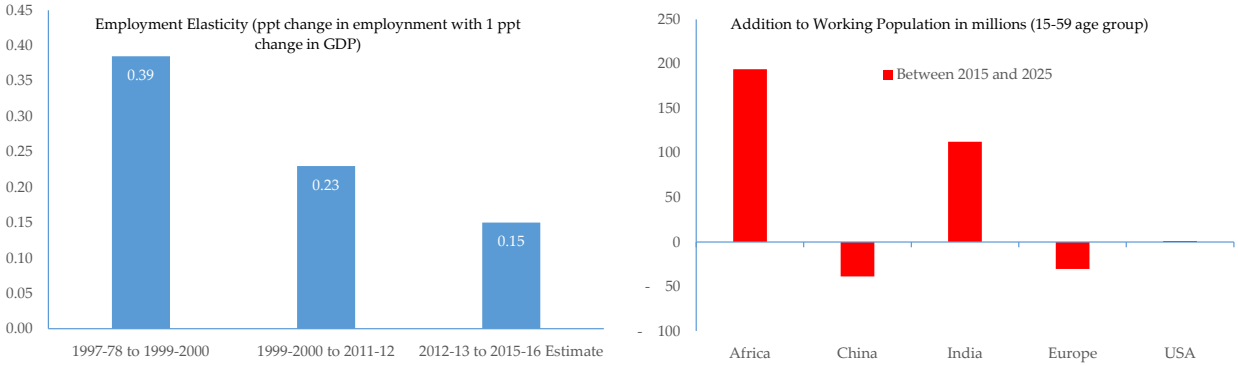
Underlying trend for the economy…

For the economy as a whole, between 2000 and 2010, approximately 64 million jobs were created in India (NSS Employment Unemployment Survey). Meanwhile, during the same period, the labour force participation increased by around 72 million in absolute terms. The average annual employment growth slipped to 1.5% from more than 2% in 1970s and 1980s (*T S Papola and Partha Pratim Sahu, "Growth and structure of long-term employment in India", March 2012*). Moreover, as shown in Figure 2, there was a persistent decline in employment elasticity for India (measure of how employment varies with economic output) and it currently stands at a level close to zero (HDFC Bank estimate: 0.15).

Thus, even as we remain convinced that a cyclical recovery is on the way for Indian economy, led by infrastructure investment and urban consumption, we are concerned going by the past trends, about the lack of a commensurate increase in employment. This itself could feed back into slack demand and cap the recovery.

The growing disconnect between economic growth, education, skilling and jobs is particularly distressing, given the fact India is entering its demographic sweet spot, with entrants into the work force likely to increase exponentially going forward (Figure 2).

Figure 2: Employment elasticity has declined, working age population to increase by around 12 million p.a.



Source: RBI's report on Estimating Employment Elasticity (2014), UNDP Population Estimates and HDFC Bank estimates

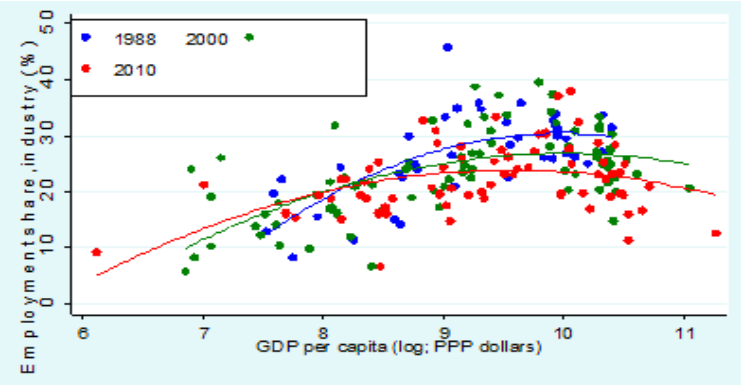
What is really happening?

A popular explanation for India's decelerating employment, particularly in the organized sector, associated with 'good' stable , remunerative jobs has been attributed to the relatively low and unchanged share of manufacturing. The comparison is invariably with China that pulled large fractions of its labour force into mass manufacturing in its high growth phase.

However, characterized as "premature-deindustrialization", other late industrializers of the 20th century are also turning into service economies without having gone through proper experience of industrialization. Thus, India's experience is not unique – its missing middle — the jump from agriculture to services without going through a process of rising industrialization is a trend consistent with reduction in both employment and output shares of the manufacturing sector.

As shown in Figure 3, the relationship between employment share of manufacturing and GDP per capita is typically an inverted U, suggesting that over the course of development, a country first industrialize and later on moves to the services sector. In this regard, research by Dani Rodrik (*Premature Deindustrialization*), Amrit Amirapu and Arvind Subramanian (*Manufacturing or Services? An Indian Illustration of a Development Dilemma*) shows that in most of the developing world, manufacturing sector has begun to shrink at levels of income that are a fraction of those at which the advanced economies started to de-industrialize. Over time, the curves have shifted down, which means that countries on average are specializing less in the manufacturing sector, thus devoting fewer labour resources to the industrial activities. Also, the curves are shifting leftwards, which means the de-industrialization process is kicking-in at lower levels of per capita income.

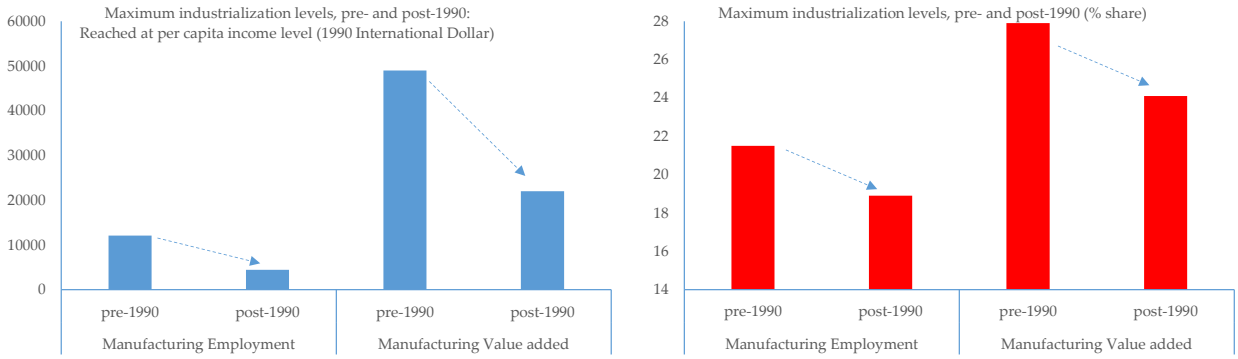
Figure 3: Relationship between employment share in industry and GDP per capita



Source: Amrit Amirapu and Arvind Subramanian (2015, Center for Global Development)

Figure 4 shows the impact of premature-deindustrialization in terms of per capita income, share of manufacturing output and employment, as estimated by Dani Rodrik. The report points out that for the world as a whole, the peak share of manufacturing was earlier around 28% and was attained at a per capita GDP level of USD 49,000. However, post-1990, the peak share of manufacturing has on average declined to 24% and is now attained at a per capita income level of USD 22,000.

Figure 4: Over time, countries are specializing less in industry and de-industrializing at lower levels of income

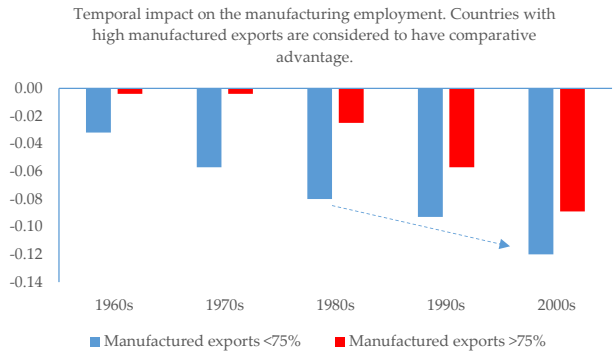


Source: Dani Rodrik (Working paper on Premature Deindustrialization, 2015, NBER)

Reasons for pre-mature deindustrialization:

1. **Globalization has been a key factor:** Without a strong comparative advantage in manufacturing, the countries which opened to trade in recent decades (or started industrializing late) got exposed to the trend of declining prices for goods already being mass-produced by the advanced economies. Figure 5 points out to coefficients for period dummies (artificial variables created to represent temporal trends), from estimation that that regresses the employment share of manufacturing on population, per capita income and period dummies. The results show that for both set of countries viz. those with comparative advantage in manufacturing and ones with no comparative advantage, the share of manufacturing employment came down over time. However, the decline in employment for countries with no comparative advantage was worse.

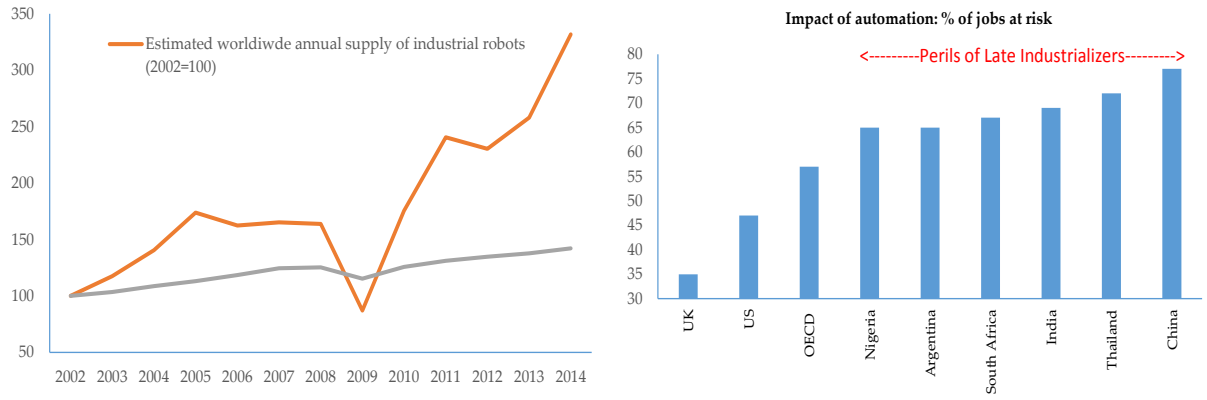
Figure 5: Globalization led to import of de-industrialization from advanced economies



Source: Dani Rodrik (Working paper on Premature Deindustrialization, 2015, NBER)

2. **Automation and technological progress is another important reason for decline in manufacturing employment.** Data from the International Federation of Robotics show that since 2010, the usage for industrial robots accelerated considerably. As shown in Figure 6, the average growth in robot sales between 2002 and 2014 was 15% per annum. Compared with the average growth of 3% in global industrial output, high degree of automation in the recent years aggravated the risk of jobs being replaced by capital-intensive techniques.

Figure 6: Growing automation meant some jobs were taken over by robots and machines

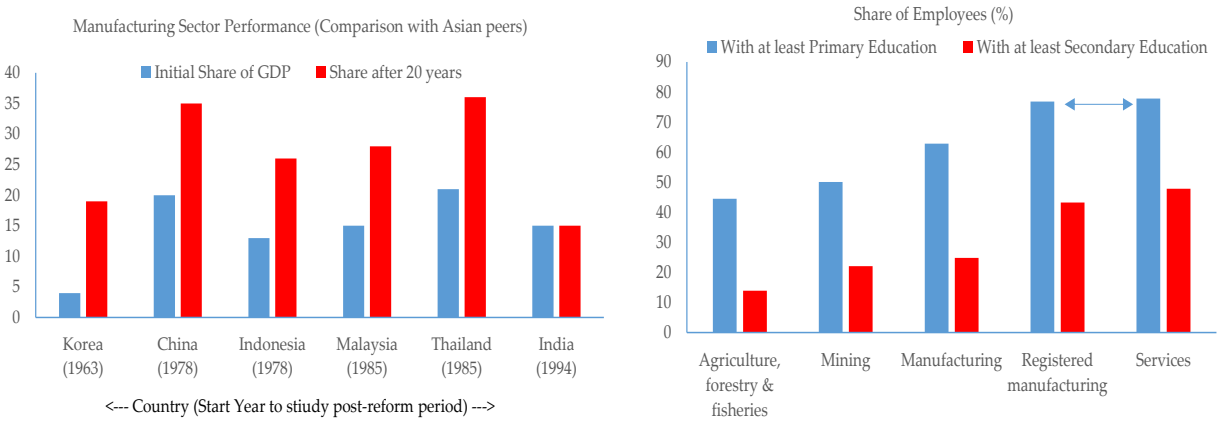


Source: IFR, World Bank Development Report, Citigroup and HDFC Bank

3. **India specifically faced another problem – a legacy of industrialization that went against its comparative advantage:** While India's comparative advantage lay in an abundance of relatively low-skilled workforce, the pattern of industrialization has been biased towards skill and capital. A report by Kalpana Kochhar, Raghuram Rajan et al. (*India's pattern of development: what happened, what follows, 2006*) points out that "India's emphasis on tertiary education, combined with a variety of policy distortions, may have channeled the manufacturing sector into more skill-intensive industries. Furthermore, the government's desire to create capital goods production capability, especially through public-sector involvement, implied that India had a greater presence in industries that required scale (and capital) than other developing countries".

   For example, the report showcases that India spent 86% of per capita GDP on each student in tertiary education in 2000 while it spent 14% of per capita GDP per student in primary education. As shown in Figure 7, such a policy mix had repercussions on India's manufacturing growth. Korea started early and was successful in increasing the share of manufacturing by 15 ppt. Others like China, Malaysia, Indonesia and Thailand were also able to engender reasonable degree of industrialization. Meanwhile, India's share of manufacturing remained broadly unchanged, even after 20 years of reforms in early 1990s. All this while, the Indian manufacturing on average continued to be skill-intensive, similar to the usually skill-intensive services sector. ***Thus, while the demand of demographic transition was for low-skill and labour-intensive manufacturing, the supply of jobs was of relatively high-skill and capital-intensive. This is the critical imbalance that lies at the heart of the growth-employment disconnect.***

Figure 7: Indian manufacturing growth remained limited and was broadly skill-intensive



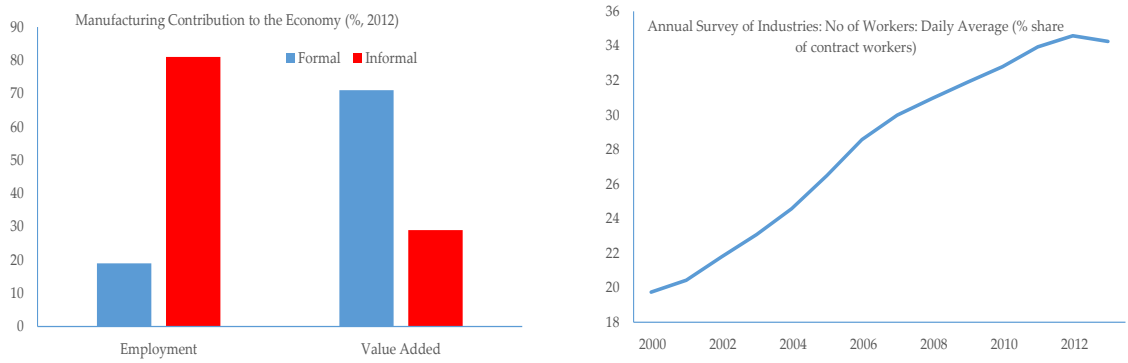
Source: Economic Survey 2014-15, Russell A. Green (Can "Make in India" make jobs?, 2014)

4. **Moreover, in India's case, slow pace of labour reforms and other regulatory issues restricted the proper development of formal manufacturing**. In this regard, the Economic Survey 2015-16 pointed out to an interesting fact, i.e. of the 10.5 million new manufacturing jobs created between 1989 and 2010, only 3.7 million (35%) were in the formal sector. Regulation-induced taxes on the formal workers, spatial mismatch between workers and jobs, labour regulations and dismissal norms under the industrial disputes act restricted the full-fledged development of formal sector in India.

   As shown in Figure 8, numerous regulations also led to spike of contractual workers in India. Data from annual survey of industries show that share of contract workers increased from 20% in 2000 to 34% in 2013. Some of the recent studies and anecdotal evidence suggest that contract employees now account for 46% share in some of the top companies in the industrial sector, compared to just 8.8% in the services sector.

   Since contractual and informal sector employees are generally associated with low productivity, the overall competiveness of India's manufacturing sector remained low, thus aggravating the impact of globalization and automation.

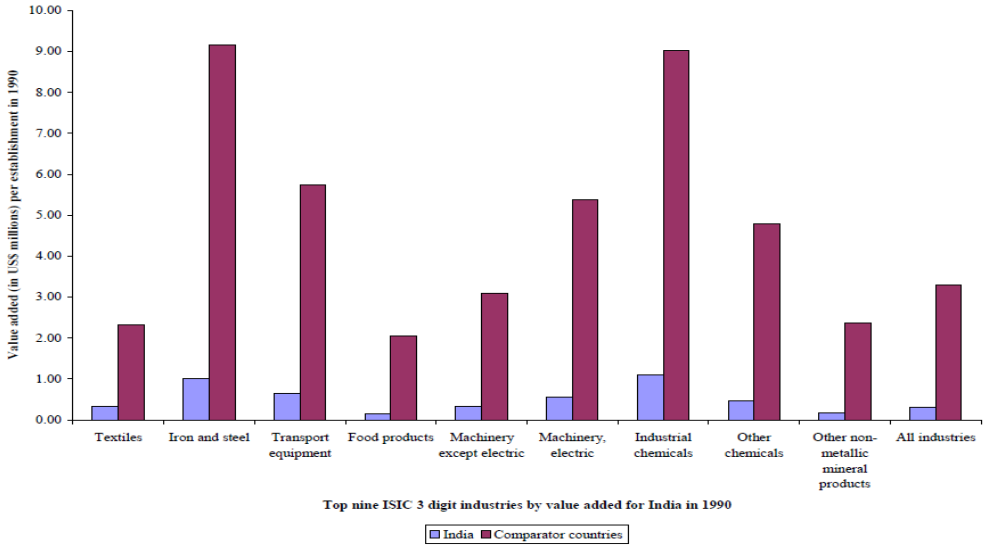
Figure 8: Formalization remains low and contractual workforce is rising in India



Source: CEIC, Economic Survey 2015-16, HDFC Bank

5. **Scale has been another issue for India:** Most of the labour laws in India have in the past been pertaining to registered firms that exceeded a certain size. Two major byproducts of such a regulatory framework have been a) burgeoning informal sector and b) low-scale on average for the Indian manufacturing. Consequently, low scale of companies in India constrained the scope for productivity expansion, optimization of capital-labour ratio and employment generation in the country.

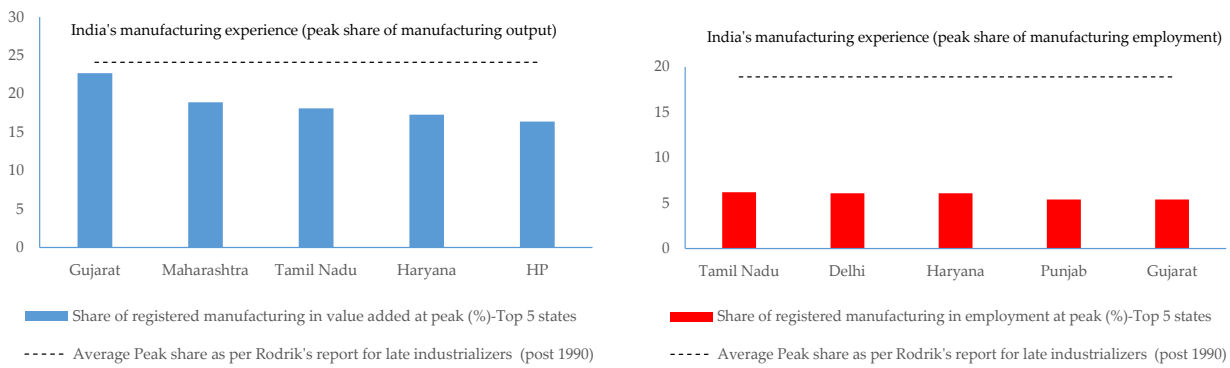
Figure 9: Average firm size in India and peer countries (1990)



Source: A report by Kalpana Kochhar, Raghuram Rajan et al. (India's pattern of development). The nine industries shown here account for 76% of value added in manufacturing sector in 1990 for India. Comparator countries comprise: Brazil, Chile, China, Hong Kong, Indonesia, Korea, Malaysia, Singapore and Turkey.

In nutshell, because of an inappropriate specialization strategy, labour market distortions and on account of certain globally pronounced factors, India achieved the peak of manufacturing employment and output much earlier than initially envisaged. A report by Amrit Amirapu and Arvind Subarmanian (CGDev, 2015) outlines a detailed experience of India's premature-deindustrialization at the state level. Some of the conclusions drawn in the report are striking. For example, very few states in India have been able to come close to peak levels of manufacturing output achieved by some of the other Asian peers. Moreover, the peak share in employment has been considerably less for Indian states, with no major state achieving more than 6.2% of employment from registered manufacturing. The summary of results is presented below and raises some serious questions for India's development strategy ahead.

Figure 10: Peaking of manufacturing sector in case of Indian states



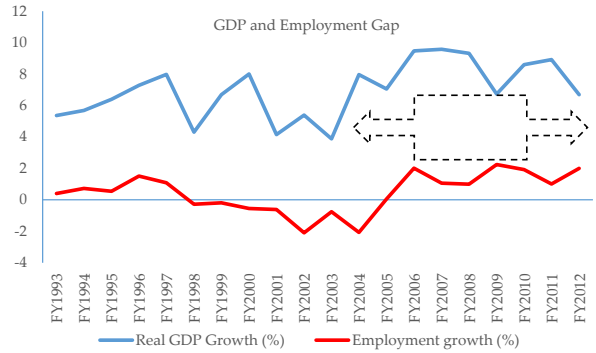
Source: Amirapu and Subarmanian (2015) and HDFC Bank

The development strategy ahead, what to do?

Lessons from other developing economies and our analysis of the labour market trends in India raise some important questions:

1. **Is current pace of growth good enough for India?** Given the decline in employment elasticity, a substantial gap between the level of job creation and the rise in workforce; the current pace of economic growth seems to be inadequate.

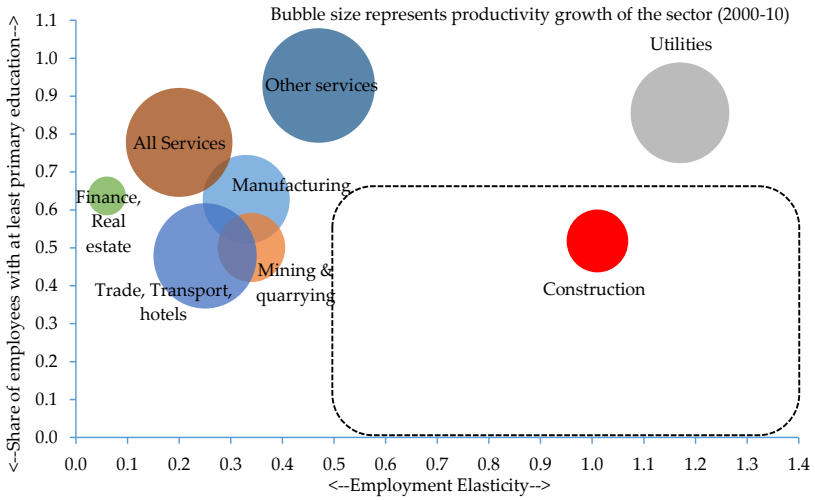
Figure 11: Much high level of growth needed to create adequate number of jobs in India



Source: CEIC, HDFC Bank

2. **What should be the objective of growth?** Growing at very high rates is not enough. Past experience shows that even high level of economic growth has not been able to guarantee safe, productive and well-paying jobs (characterized as "Good jobs" in the Economic Survey 2015-16). Low degree of formalization and the rise in share of contract workers mean that to exploit the demographic dividend, it is important that India generates 'productive employment' going forward.

Figure 12: Construction sector has been able to effectively take advantage of India's unskilled population



Source: Economic Survey 2014-15, RBI and HDFC Bank. NB: Other services comprise of Public Administration, Defense, Education, Health and Social Sector services.

3. **Why not also serve from India? The efficacy of low-end and non-traded services**

   Empirical data shows that the share of manufacturing has already peaked for India and that the economy is going through a phase of premature-deindustrialization. Moreover, as shown in figure 12, sectors like construction, utilities and 'other services' have proven to be much more successful in creating large number of jobs. Thus, a combination of services and the right kind of industrial pattern seems to be the right answer to India's problems. Manufacturing is not the only solution.

Farm in India vs. Make in India

Given the legacy issues of the past, it can be argued that a manufacturing led development is bound to have its limitations. Make in India could mean many things but at this stage our perception is that it is heavily biased towards skilled manufacturing and high end services. We would argue for both a revision in this pattern and a complementary effort could be to reboot the agriculture sector. Providing the already existing workforce in agriculture with effective infrastructure (irrigation, unified markets etc.) could deter migration to cities for menial jobs. Moreover, alternative avenues can be explored in the horticulture space to improve productivity and income for Indian farmers. A massive ramp up in food processing and a diversification in the farm output mix towards higher value added items could go a long way in tackling the problem. This needs a serious rethinking on food security that has historically led to a bias towards cereals.

What to manufacture in India?

The long term: what should India ideally be manufacturing…

"Just because it's not happening right now, doesn't mean it never will."

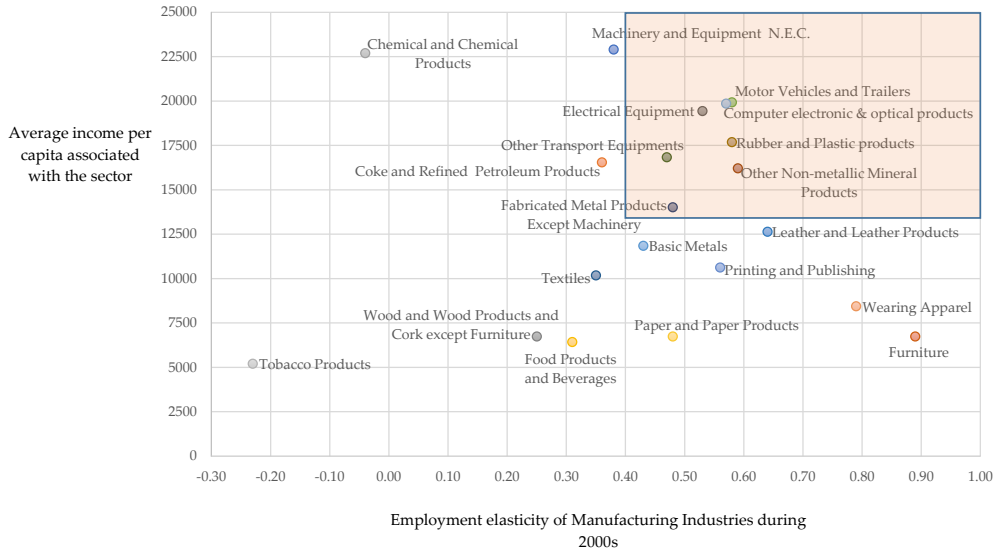
While finer distinctions and precise anticipation of the future drivers is required to plot an effective path of development. For this report, given the prominence of Make in India at the present juncture, we try and analyze only the manufacturing sector in much more detail.

If successful, an attempt to reverse the trend of de-industrialization could be a unique achievement for India. A manufacturing led strategy could put India on a global map, as the only country with dual engines of growth – Services as well as the Manufacturing.

However, this would call for structural reforms in all spheres of the economy and would require a sector specific strategy. In this section, we present a list of sectors that can serve as long-term goals for the 'manufacturing-miracle' to work in India.

In our view, goal of all the new manufacturing initiatives should be not only to create maximum jobs but also well-paying productive jobs. Thus, in our two-factor policy model, we try to identify sectors that can help in creating maximum employment and generating maximum income gains. In Figure 13, while one aspect corresponds to employment elasticity (x-axis), the other is related to Prody scores of various sectors in the manufacturing space (y-axis). Prody score is the average income per capita associated with countries exporting a particular product/sector specific goods.

Figure 13: Short-term basic model for manufacturing



Source: Rahul Anand, Kalpana Kochhar, and Saurabh Mishra (IMR Working Paper 2015), RBI and HDFC Bank

As per the two-factor analysis, while the wearing sector appears to be doing well in terms of generating employment, policy focus on this sector cannot guarantee high paying jobs. Thus, the appropriate manufacturing strategy should be to focus on sectors lying in the highlighted quadrant. In this regard, sectors like Rubber and plastic goods, fabricated metal products, electrical equipment or motor vehicles are the ones that should feature as priority sectors in the manufacturing policy.

However, the employment elasticity potential and the likelihood of gaining comparative advantage in the future are some factors that are not taken into account under the simplistic two-factor approach.

As the manufacturing processes evolve and as India moves up the supply-chain ladder, the likelihood of gaining comparative advantage in a new sector becomes realistic. For example, in the long-run, India might gain comparative advantage in computer electronic and optical products. Thus, it becomes important to understand the future potential of each sector and nurture the prospective pioneers with proper policy initiatives.

Therefore, for a long-term approach, we expand the scope of our analysis to introduce a new variable - country's likelihood to export a particular product in the future (or gain comparative advantage in particular sector going forward). Regarded as the Density of a product (in which a country does not have a comparative advantage at present) is scaled to vary from 0 to 1, and can be seen as a measure of the probability (or capability) of developing comparative advantage in the future (*For detailed calculations of Density measures, refer to IMF Working paper, Make in India: Which Exports Can Drive the Next Wave of Growth?*).

With a three-factor framework (including Density, Prody and Employment Elasticity), sectors such as computer electronic and optical products, furniture, leather and leather products, printing and publishing, rubber and plastic products appear on the top. Others like motor vehicles and electrical equipment also fare among the top ten sectors to focus on (Table 1).

Such a framework also takes into account the loss of comparative advantage in certain sectors. Textiles for example was considered to be an export oriented sector of India and was generally perceived as one of the prime drivers of job creation. However, as per our analysis, the sector loses out in terms of low per capita income and the extent of world market dominance that can come for Indian textiles in the future. Anecdotal evidence in this regard corroborates our viewpoint. For example, India lost 37 textile markets in the European Union to Pakistan over last two years. It is also well-known that India is losing out to Bangladesh and Vietnam in terms of global market share for textiles.

Table 1: Manufacturing Sectors: Focus Sectors (Rankings as per our estimates)	
Computer electronic & optical products	1
Furniture	2
Leather and Leather Products	3
Printing and Publishing	4
Rubber and Plastic products	5
Wearing Apparel	5
Other Non-metallic Mineral Products	7
Motor Vehicles and Trailers	8
Paper and Paper Products	8
Electrical Equipment	10
Fabricated Metal Products Except Machinery	10
Other Transport Equipments	12
Machinery and Equipment N.E.C.	13
Wood and Wood Products and Cork except Furniture	13
Basic Metals	15
Coke and Refined Petroleum Products	16
Chemical and Chemical Products	16
Textiles	18
Tobacco Products	19
Food Products and Beverages	20

Source: Rahul Anand, Kalpana Kochhar, and Saurabh Mishra (IMR Working Paper 2015), RBI and HDFC Bank

Reality check: What about skills?

Thus, an employment strategy will have to ramp up the low skill sectors, absorb the current supply of labour while developing a skill base that over time leads to the 'optimal quadrant'. *Let us be very clear on this: skilling is not something that can be done overnight. Given the skews and distortions in the education system, it might take an entire generation or more to get to the right mix of skills.* That said, the ideal mix of industries identified in the previous section includes a combination of relatively low-skilled segments where skilling is relatively less challenging and the more skill intensive sectors. Thus, the skilling strategy will also have to be a two-track approach.

For example, appropriate level of skill-training for optical products, vehicles and computer electronics could be through university level education. This will take time. Meanwhile, for sectors such as footwear, furniture, leather and rubber products, fast-tracked vocational training centers can be used.

The experience with skill-development in India is far from satisfactory and presents a curious conundrum. Despite the apparent shortage of skills, the demand for skill-acquisition seems extremely low. India had just 250,000 industrial apprentices in 2013. Ministry data shows that from the time of the Apprentice Protsahan Yojana scheme's launch last year till February 2015, only 288 new apprentices were formally engaged, which is too low compared to the government's first target to sponsor 100,000 apprentices by March 2017. Moreover, anecdotal evidence suggests that formal training in skill-centers does not improve their employability or fetch a premium in the job market.

The only plausible answer to this conundrum seems to be that technical training in India is incompatible with the needs of employers and apprenticeship schemes tend to be too superficial to actually turn into a viable job-track. While we could write an entire report on this, suffice it to say that the entire technical training model has to be reviewed and revised.

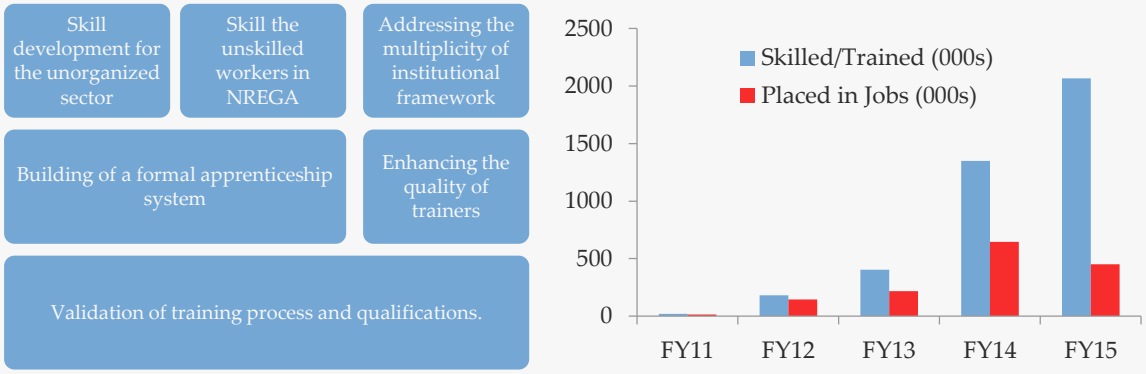
The Skill Development in India: Getting ready for the future

The Economic Survey 2014-15 stated that the present skilled workforce in India is only 2%. An important requisite for the manufacturing miracle to work is that the skill deficit in India is resolved at a rapid pace and with a right perspective. Maximum employment and income gains can only come if the policy push is commensurate to the sector specific strategy that India seeks to build for the future.

There are two major issues to be addressed in this regard:

- Skilling of labour force happens in areas with high employment elasticity and sectors with high potential incomes.
- The skills provided by training centers are qualitative enough to provide the workers with employment i.e. resolving the placement-linked challenge.

Figure 14: Policy perspectives for Skilling India



Source: National Skill Development Corporation and HDFC Bank

The Apprenticeship Model: Case Study

Apprenticeships are part of dual education system in Germany. Apprentices spend about 50-70% of their time in companies and rest in education. Around the ages of 16 to 18 students join an apprenticeship by applying for training contracts with employers, and spend 2 to 3 years training with the company. After completion of the training, a job is usually waiting them.

Compared to 3 million apprentices in Germany, there were just 250,000 industrial apprentices in India in 2013 (*Macroeconomic reforms: Risks, flash points and the way forward, ICRIER 2014*).

Way Forward: The Apprentices Act 1961 has scared away employers because it requires an employer to seek a license for every apprentice. It has provisions for imprisonment for not engaging with provisions of the Act. Also, it micro-specifies location, duration and trades for apprentices. Several amendments have come in this direction but have been held-up in inter-ministerial conflicts.

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