NOTOS QUARTERLY 2015/2016

INDIA TO BE THE NEXT CHINA?

PART 1

India surpasses China in terms of Growth rates; but can it replace China as the world's growth engine?

With more than half of its population under 25 years of age and the new political setup with willingness and focus on manufacturing sector, India is ready to make an impact on the world economy

PART 2

India's energy consumption is currently only 27% of the world average. It is likely to more than double in the next 15 years.

There is a clear focus on higher steel production. These factshave major implications for coal and iron ore demand in India.

PART 3

India's refinery capacity in addition to its rising domestic demand leading the crude oil demand growth

Gas being promoted as a substitute for coal and as alternate fuel for traditional cooking/heating

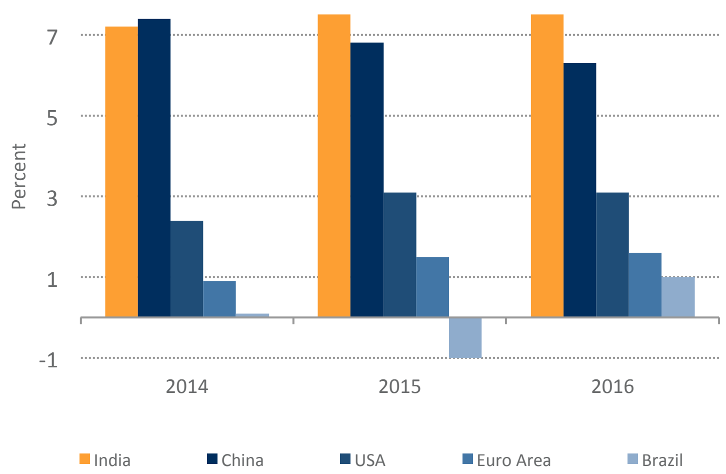
INDIA TO BE THE NEXT CHINA (PART 1)

What has been predicted for years finally comes true: India is set to surpass China this year in terms of real GDP growth rates. In chart 1 on the right side are the projec-tions from the IMF & the World Bank for world's growth engines.

So, is India going to be the next China? On one hand, China's contribution to the global economy, even at lower growth rates, remains much larger simply due to the sheer size of its economy.

On the other hand, China is maturing as a market and India seems ready to seize the opportunity.

CHART 1: IMF PROJECTS INDIA TO SURPASS CHINA THIS YEAR IN TERMS OF GROWTH DEMOGRAPHIC



Source: International Monetary Fund – April 2015

In terms of Purchasing-Power-Parity, China's economy overtook Japan's in 2001 and India's economy overtook Japan's in 2011. PWC's report 'The World in 2050' claims India to be the second largest economy by 2050 ahead of USA. All in all, the mood amongst economists is upbeat.

"The Indian economy is projected to grow at an average annual rate of 6.4% in 2014 – 2020, but is likely to see some moderation in the longer term. However, its average growth rate should remain stronger than China after 2020 due to its younger population and greater scope for catch-up growth."

PWC

"The bullish case for India rests on two pillars: its favourable demographics and the scope for catchup from a very low base in investment, infrastructure and productivi-ty. With structural tailwinds, and a government that we think is moving in the right direction on structural reforms, we think the case for remaining positive on Indian assets remains strong."

Goldman Sachs

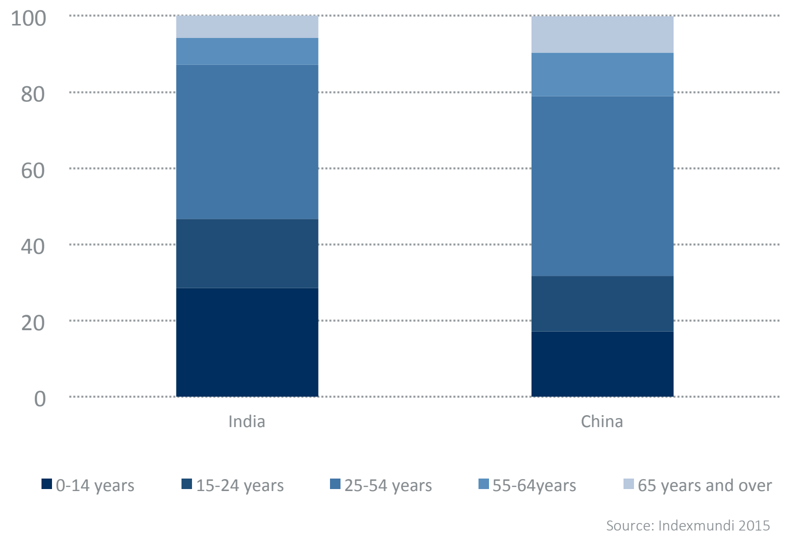
While many globally active investors tend to put China and India equally into the developing-economy bucket, it is important to remain mindful of the significant political and structural differences between the two nations. India is attempting to shift from consumption- to investment-led growth at a time when China is undergoing the opposite change. Whether India can emulate China's success dependson various factors. Of these, three major factors, in our opinion are most critical for India's success: demographic dividend, development of the manufacturing sector and political stability.

DEMOGRAPHIC DIVIDEND

The biggest story in India continues to be its demographics. It will overtake China as the world's largest population by 2030. A comparison of India's and China's demographics shows China's rapidly aging populati-on in contrast to India's rapidly growing population.

While China is all about exports, the Indian economy has been thriving due to its domestic consumption. India, unlike China, is a net importer of goods. Thus, while China's growth

CHART 2: NEARLY HALF OF INDIA'S POPULATION IS UNDER 25 YEARS OF AGE



rates have been affected by developments in the U.S. and Europe, the domestic economy's health has defined India's success. In the period 2015-2040, China's working age population is likely to decline by 115m whereas India's is going to rise by 190m. The PWC report 'Future of India' reports a base case (termed the Troubled Waters Scenario) wherein the growth rate is around 5.5% p.a. merely due to India's demographics.

2. DEVELOPMENT OF THE MANUFACTURING SECTOR

The strategy followed by China, Japan and other East Asian countries has been export-led growth based on the manu-facturing sector. India needs to expand labor-intensive manufacturing, thereby creating employment opportunities for its growing pool of workers and make the best use of its demographics opportunity.

The experience of economic development shows that, while a country expands its manufacturing capacity, the agricultural sector in the economy declines relatively, and over time the services sector grows and eventually over-takes the manufacturing sector to become the dominant part of the economy. Below is a chart showing each sector's contribution to GDP in India and China. China has moved the classical way – from agriculture to industries and then to services, whereas India has taken a very unusual path.

Despite its merchandise export strength, China is currently a net importer of services. By contrast, India is a net exporter of services. This is largely due to India's success in IT service exports and its relatively small value of merchandise exports. India's ever-growing services sector is now the dominant contributor to its GDP growth but employment absorption in this sector is not very high as shown in chart 4 on the right side. India's services sector contributes 50% to Indian economy but employs only 28% of the popu-lation.

CHART 3: INDIA'S SERVICES SECTOR IS THE DOMINANT CONTRIBUTOR TO GDP

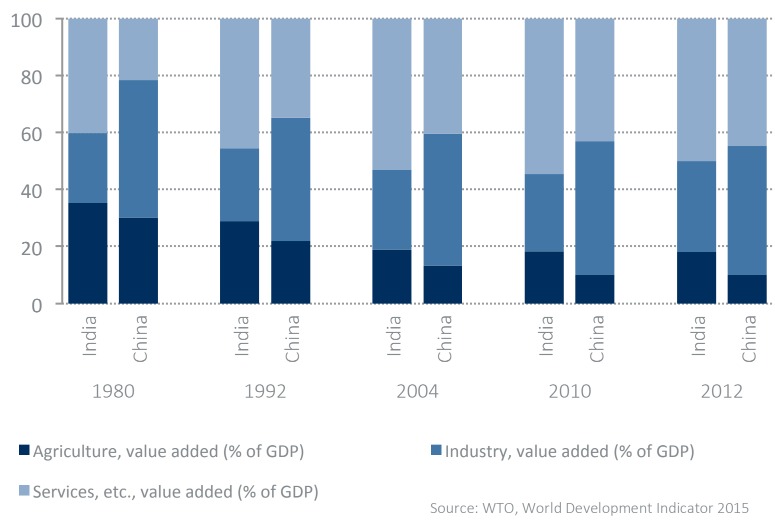
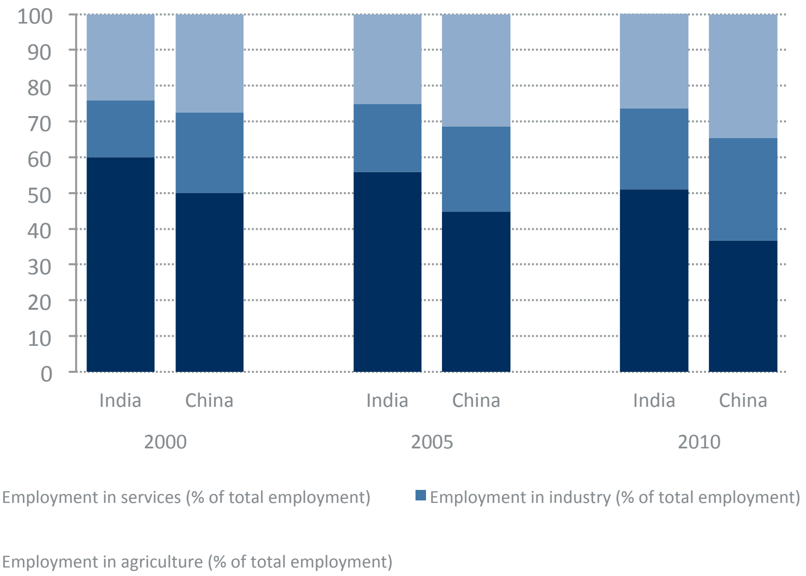


CHART 4: MOST INDIAN POPULATION STILL EMPLOYED IN AGRICULTURE SECTOR

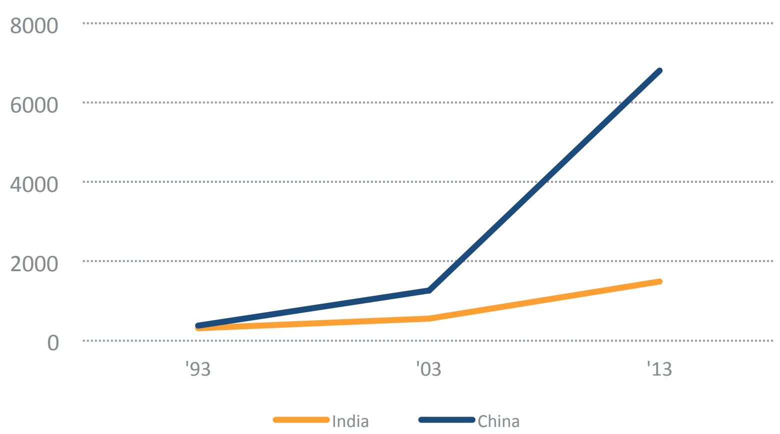


Source: WTO, World Development Indicator 2015

India needs industrialization as millions of rural workers have to be employed and the IT sector is not large enough to accommodate these people. Chart 5 shows GDP growth per capita has developed over the last two decades in India and China.

It also shows the scope for catch-up growth in India. While China reaped the benefits of the industrialization and other reforms through a steep rise in GDP per capita, India did not make much progress on that front.

CHART 5: INDUSTRIALIZATION'S EFFECT ON CHINA'S GDP PER CAPITA (IN USD)



Source: WTO, World Development Indicator 2015

Worth noting here is the timely launch of the 'Make in India' program by the new Modi-government. The aim of the program is to increase manufacturing sector's contribution to India's GDP by facilitating investment, fostering innovation and protecting intellectual property.

India, however, has the reputation for going back on the commitments made by its governments. This cautionary sentiment was best summed up by Anand Mahindra, a leading Indian industrialist:

"If we continue to judge India's progress by China's, using statistical metrics like FDI etc., India will continue to be branded a laggard. India's messy coalition governments are not suddenly about to become as efficient and decisive as China's technocrat-led Politburo."

Mahindra in McKinsey & Co Asia Insights 2013

3. POLITICAL STABILITY AND POLITICAL WILL ARE CRUCIAL

The biggest factor that contributed to China's success has been its decisive Politburo which undertook substantial market reforms and prudent macroeconomic manage-ment.

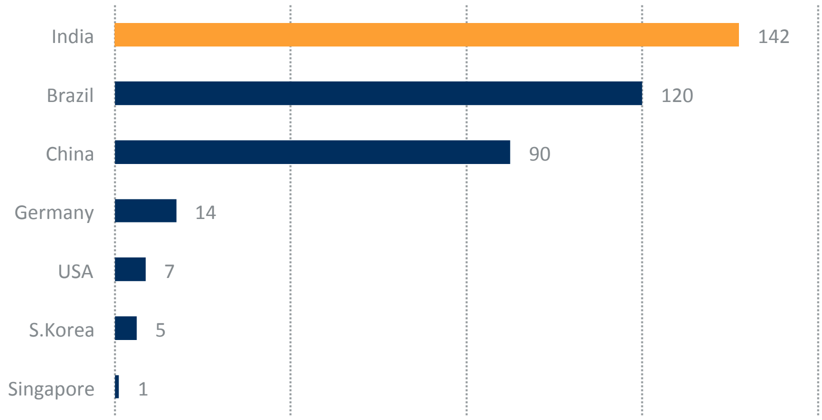
In contrast to China, India has generally performed poorly on various benchmarks gauging the business environment. India performs poorly not only in comparison to other developed economies, but also in comparison to other developing BRICS economies as shown in chart 6 on the right side.

Furthermore, India is ranked on place 71 in the World-bank's global competitiveness studies. World Economic Forum's study of 144 economies finds India lagging behind many developing economies in global competitiveness.

This 2014 ranking, however, does not take into account the latest slew of measures taken by the new Modi-government to make India a business friendly destination. The current government with a strong mandate and majority in parliament is able to take some decisive steps in the right direction, such as the implementation of the all-encompassing 'Make in India' program. One of the bold initiatives under the program includes building DMIC (Delhi - Mumbai Industrial Corridor) by developing 24 new manufacturing cities as well as new logistics hubs along with residential townships along this corridor. The projecthas been featured in KPMG's '100 Most Innovative Global Projects'.

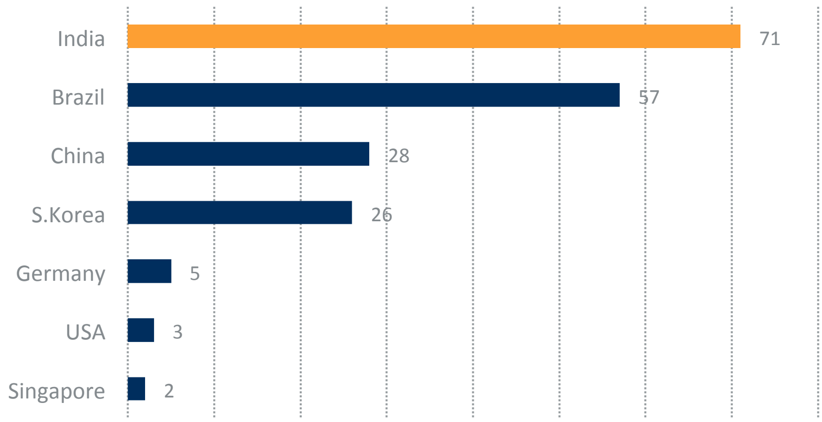
An investment of USD 1,000 billion has been projected for the infrastructure sector until 2017, 40% of which is to be funded by the private sector. 45% of infrastructure investment will be funnelled into construction activity and 20% is set to modernize the construction industry. The power sector accounts for almost a quarter of the projec-ted investments amongst all the infrastructure sectors between 2012 and 2017. Several new sectors have been opened up for direct FDI or the limits have been raised.

CHART 6: INDIA RANKS 142ND AMONG 189 NATIONS FOR EASE OF DOING BUSINESS



Source: World Bank 2015

CHART 7: INDIA FAR BEHIND IN GLOBAL COMPETITIVENESS RANKINGS



Source: World Bank 2015

Efforts are being made to cut redtape. There are initiatives to simplify taxation structures e.g. a unified GST (Goods & Services Tax).

How well India is able to implement the planned reforms will decide its future growth rates. For example, disagreements have already pushed the implementation of unified GST to 2017 from 2016. PWC report 'Future of India' projects three alternative growth rate scenarios besides a base rate scenario: the best case shows Indian economy growing to the size of USD 10 trillion (in 2010 prices) by the year 2034. This scenario requires a dramatic shift in the economy's composition comparable to those experienced in other emerging markets that have transformed their economies e.g China and South Korea. This would ultimately also be the scenario where India could possibly take the title of China 2.0. We have to be mindful of the various roadblocks on the way, though.

INDIA IS MOVING IN THE RIGHT DIRECTION

We believe India stands at a point of great opportunities ahead. There are many fundamental strengths in the eco-nomy which are now beginning to materialize. India needs to build its manufacturing sector which requires major infrastructure and capital investment. With the current government's plans, it seems to be moving in the right di-rection. Even if we listen to the cautionary sentiment and discount the projected growth rates, India is ready to make an impact on the global economy. How it is going to affect the maritime sector, will be discussed in our next report.

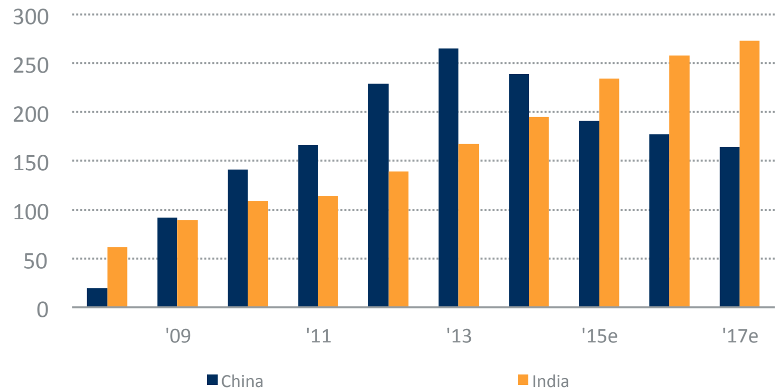
INDIA TO BE THE NEXT CHINA? (PART 2)

- *India's energy consumption likely to more than double in the next 15 years*
- *Consequently, India expected to mitigate lost demand of seaborne coal from China*
- *Higher steel production in India likely to result in higher imports of iron ore*

Taking the thread from our previous issue forward, we discuss how India's growth story might impact the commodity trades and the maritime sector. Self evidently, this would be in direct correlation to India's international trade relations development. PWC's report, "Future of World Trade", expects India's bilateral trade relations with China and UAE to be amongst the world's top 20 bilateral trade pairs in 2030. For comparison, until 2011, India did not appear in the list of world's top 25 bilateral trade pairs even once.

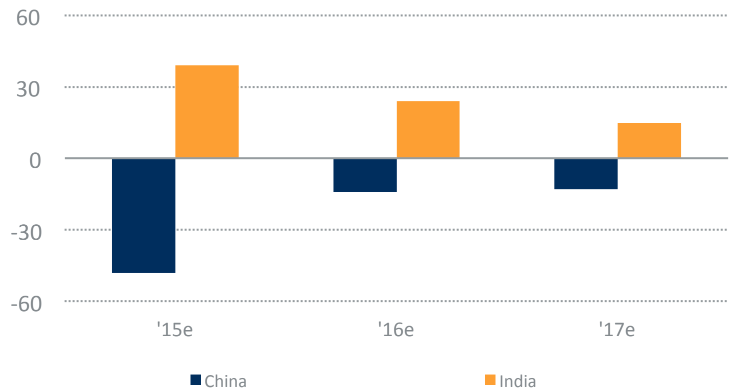
One can already see India steadily rising up the ladder of trade volumes and surpassing other big players such as Japan. To decipher the impact of these developments in India's trade on the maritime sector, we focus our discussion on the primary types of cargo which represent the majority of seaborne trade i.e. dry bulk, liquid bulk and containers. In this issue, we focus on dry bulk and thereunder trade scenarios for coal and iron ore since these two commodities represent more than half of global dry bulk trade.

INDIAN'S COAL IMPORTS TO SURPASS CHINA'S (M TONS)



Source: DNB Markets 2015

INDIA TO COMPENSATE LOWER CHINESE COAL IMPORTS (M TONS)



Source: DNB Markets 2015

COAL: STRONGLY NEEDED TO STILL INDIA'S HUNGER FOR ENERGY

According to DNB Markets, Indian imports of coal are set to surpass Chinese imports this year, increasing almost 4-times from a mere 60m tons in 2008 to nearly 240m tons in 2015. Given India's demand for energy, this trend is expected to continue over the next years, as shown in the chart above. According to these projections, India is likely to replace the lost demand for seaborne coal from China. While China is concentrating on cleaner energy and therefore, cutting down its coal imports, energy-hungry India is projected to raise its imports in the coming years.

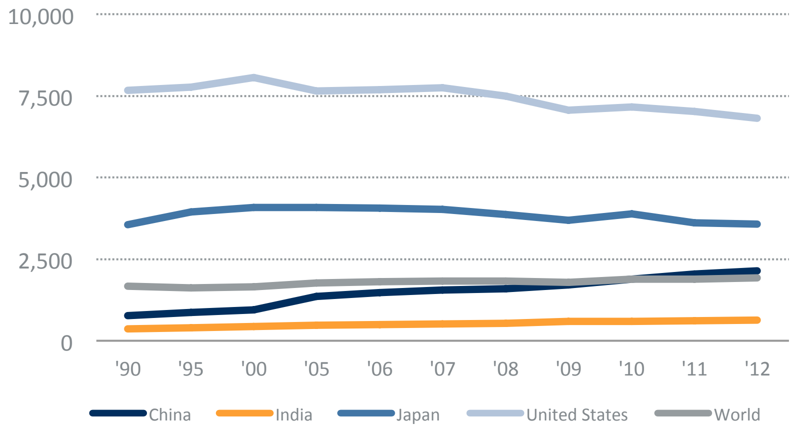
The majority of coal consumed in India is thermal coal, used mainly for power generation. The other part is coking coal utilized mainly for iron and steel production. Thus, India's energy outlook and steel production will play a deciding role in India's coal trade in the long term.

ENERGY OUTLOOK: HUGE DEMAND POTENTIAL IN THE YEARS TO COME

Currently, India's per capita energy consumption is only 27% of the world average and 23% of China as shown in the chart above. China'sper capita energy consumption climbed above the world average in the recent years, representing a 7% average annual growth rate from 2000 to 2012, but India consumes only a fraction of that.

India's energy consumption is likely to double in the next 15 years. This is based on the future energy outlook reports from McKinsey and BP which are a couple of years old and hence, we believe these to be rather conservative estimates as these do not account for Modi-government's aim of higher industrialization. According to BP energy outlook 2030, the dominance of coal in India's energy-mix will drop only slightly from current 54% to 50%. Similarly, the share of coal in power generation is also likely to maintain its lead, dropping marginally from 71% currently to 67% in 2030. Effectively, it implies an 80-90% increase in coal consumption by 2030, representing a 4% compound annual growth rate.

INDIA WITH COMPARATIVELY LOW ENERGY USE PER CAPITA (KG OF OIL EQUIVALENT)

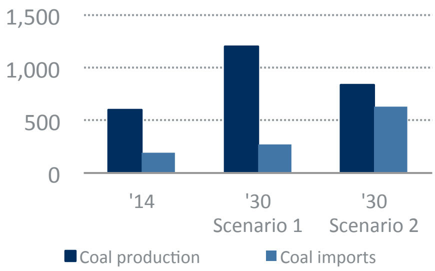


Source: World Bank 2015

SCENARIOS FOR EXPECTED DEMAND FOR COAL IMPORTS BY 2030

India has one of the largest coal reserves in the world, but infrastructural bottlenecks, lack of available land for mining projects and coal scam have so far curbed the growth in the domestic coal output. Indian Government is committed to raising domestic production of coal by removing all bottlenecks, but that alone is not likely to be sufficient to meet the exploding demand. Below, we describe two scenarios. Based on the aforementioned estimates, coal consumption is expected to rise by 85%. In scenario 1, the domestic coal production doubles until 2030, assuming that Indian Government efficiently sticks to its aim of reducing import-dependence for energy. This scenario relegates the coal imports to a not-so-important role in the energy mix. Although, the imports are still expected to rise, but only marginally. In scenario 2, the domestic production lags behind the demand, accelerating by only 40% and thereby creating need for much higher imports of almost 3-times the current levels. Here, the import of coal is assumed to play a bigger role than it currently does.

DIVERGING PRODUCTION-IMPORT MIX (M TONS)



Source: EIA, DNB Markets, Notos Group 2015

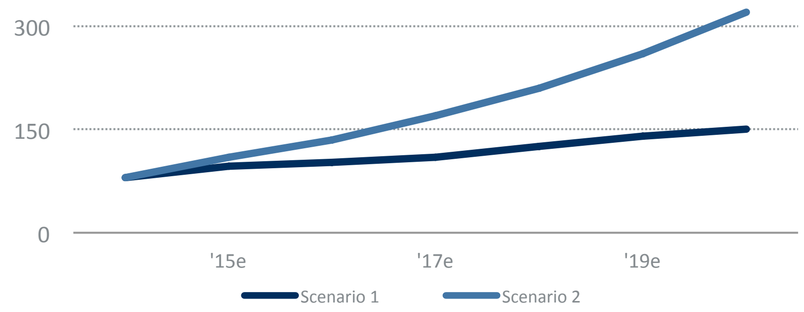
UNCERTAINTIES SURROUNDING THE ASSUMPTIONS

We deem the aforementioned growth estimates already quite conservative since they do not account for the targeted acceleration in the industrial growth. Thus, we believe scenario 1 paints a far more gloomy picture than likely. On the other hand, given Indian Government's determination in raising domestic coal output, scenario 2 might be too optimistic. At the same time, DNB Markets expects Indian coal imports to climb up to 400m tons as early as 2017. Moreover, a change in the international commodity prices or a depreciating Indian rupee, thereby raising the effective cost of imports, could also influence how this mix plays out. Thus, the market expectations are very varied. We expect the actual growth to lie somewhere between these two scenarios and expect India to be importing in the range of 400-500m tons by 2030, representing an average annual growth rate of 5-6% for the imported coal.

IRON ORE: BUILDING INDIA'S FUTURE INFRASTRUCTURE AND MANUFACTURING BASE

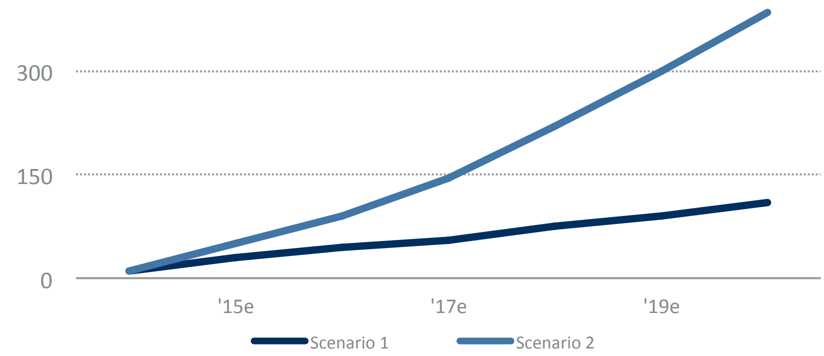
In 2010, India was the world's third-largest exporter of iron ore. Since then, the exports have declined steadily. India now turns out to be a net importer of iron ore going by the data from the last 12 months, as reported by DNB Markets. It also overtook the US to become the world's third largest steel producer, following a 10% y-o-y increase in output from January to May. Although China's iron ore imports have grown in recent times owing to low prices, the concerns over its economic slowdown, falling steel production and risky housing market don't provide the background for this trend to continue. With India's focus on manufacturing which in turn would lead to expanding steel production, India is likely to grow in importance for iron ore trade.

SCENARIOS FOR INDIAN STEEL PRODUCTION (M TONS)



Source: DNB Markets 2015

SCENARIOS FOR INDIAN IRON ORE IMPORTS (M TONS)



Source: DNB Markets 2015

STEEL PRODUCTION: TWO SCENARIOS OF DIFFERENT GROWTH PATHS

DNB Markets has produced two scenarios of Indian steel production and resultant iron ore import levels as shown below. For simplicity, it has been assumed that the extra needed iron ore for this additional steel production is imported. Scenario 1 shows India following the path taken by China 20 years ago as India's current levels of steel production and consumption over the last few years are the same as that of China's 20 years ago. This would result in a doubling of steel production by 2020 from the current levels. Scenario 2 assumes an even more impressive acceleration resulting from India's focus on 'Make in India' program and higher industrialization, leading to an almost 4-fold increase in steel production by 2020. Accordingly, the demand for iron ore imports is likely to increase above 350m tons by 2020 from the current negligible level.

Scenario 1, although representing an 11% compound annual growth rate in steel production, appears rather conservative in the light of India's industrialization ambitions. We deem that India, in the next 5 years, is likely to grow faster than China 20 years ago as China's exponential growth came since its joining WTO in 2001. China's steel production increased more than 6-fold from nearly 130m tons in 2000 to 820m tons in 2014, representing a 13% average growth rate p.a. At the same time, scenario 2 might be too optimistic as the intended boost of the Indian manufacturing sector may take longer than expected. Moreover, India working towards raising its domestic iron ore production could prove to be a major stumbling block for iron ore import forecasts. Thus, we believe that the actual growth of iron ore imports is more likely to lie somewhere between these two scenarios i.e. in 2017, India iron ore imports are expected to be 50-100m tons.

ALL DECIDING FACTOR: INDIA'S ABILITY TO REBUILD ITS ECONOMY

Finding reliable data and sources for India's resource needs has been a rather difficult task. We encountered many mismatching sources for historical data. For future projections, we relied heavily on the research by DNB Markets, that followed their analysts' trip to India this year.

Indian Government plans to raise its industrialisation levels and provide round-the-clock power for all by 2022. At the same time, it aims to raise the domestic production of coal and iron ore to reduce its import-dependence. How successful it will be in achieving these goals will have a major bearing on the maritime trade. We continue our discussion in the next editions.

SOURCES

McKinsey Report- 'India: Towards Energy Independence 2030', Jan 2014

BP Energy Outlook 2030 : India Fact Sheet, Jan 2013

DNB Markets: Dry Bulk Sector Report from 22 August 2015

World Steel Association - Statistics Archive, 2015

Clarksons-Shipping Review – Outlook Spring 2015

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INDIA TO BE THE NEXT CHINA? (PART 3)

- *India's refinery capacity in addition to its rising domestic demand leading the crude oil demand growth*
- *Gas being promoted as a substitute for coal and as alternate fuel for traditional cooking/heating*

We discussed India's impact on dry bulk trade in the previous issue and focus on seaborne liquid bulk trade originating from India in this edition. Liquid bulk, by definition, primarily constitutes of oil and gas with gas being further subdivided into liquefied natural gas (LNG) and liquefied petroleum gas (LPG).

INSATIABLE DEMAND FOR OIL

The International Energy Agency predicts that India will burn through 4.1m barrels per day (mbpd) in the second quarter of this year, edging out Japan's 3.8mbpd and thus taking the place of third largest oil consumer in the world. Underlining the challenge of getting reliable and coherent data, it is worth mentioning here that Clarksons predicts a 2% increase in crude imports in 2015, whereas DNB Markets expects a 2% decline. However, a growth of 7% p.a. is projected for 2016 - 2017 by DNB Markets which is in line with Clarksons' projections of refinery capacity growth in India. What is, however, indisputable is that India is now a major influential player in global crude market importing over 10% of global imports, as can be seen in the graphic below.

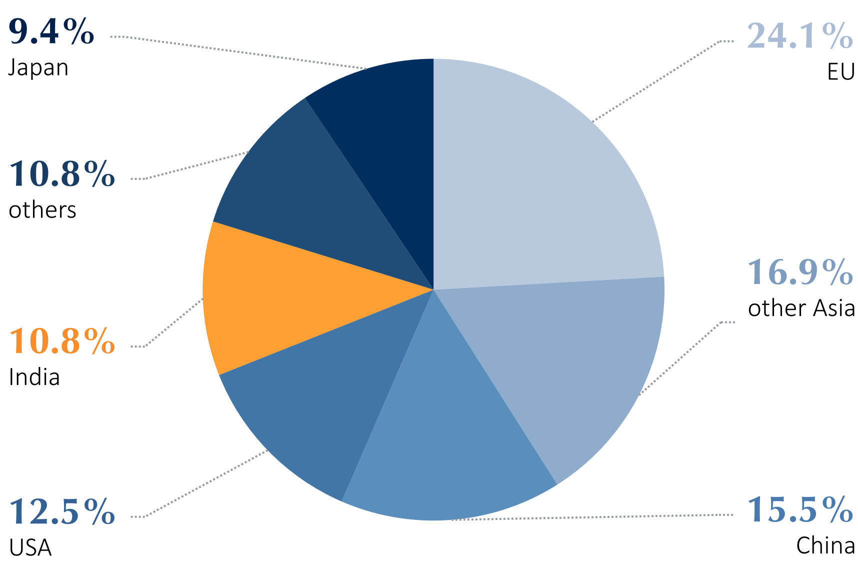
SURGING DOMESTIC OIL CONSUMPTION

India's upswing in energy consumption is being driven by growing population, rising standards of living and an increased focus on industry, as has also been discussed in the previous issue. Oil consumption constitutes almost a quarter of India's energy mix and thus, is likely to grow in tandem. According to BP Energy Outlook 2035, India's energy consumption will grow by 132% in the next 20 years and its oil imports are likely to rise by 169% since domestic oil production cannot grow at the same pace. This implies an average annual compound growth rate of 5% for oil imports till 2035.

TRANSPORT SECTOR AS A BIG OIL GUZZLER

Even in times of lull in automobile sales during the last couple of years, more than 25m cars, 1.4bn two-wheelers and 6m commercial vehicles have been added every year to the existing vehicles on Indian roads. This indicates a huge demand for oil from the transport sector. Diesel constitutes about 44% of total consumption of petroleum products in India, whereas petrol accounts for 10%. While petrol in India is almost entirely consumed by the transport sector, 70% of diesel is consumed by this sector and a further 13% by the agriculture sector and 9% by the industry.

A MAJOR INFLUENCE IN GLOBAL OIL IMPORTS EXERTED BY INDIA



Source: Clarksons Oil & Tanker Trades Outlook Sep. 2015

MODERN INDIAN REFINERIES ON STRONGER GROUNDS

India's crude imports are not only driven by its energy consumption, but also by its refining capacity. India currently ranks fourth globally in terms of refinery capacities behind US, China and Russia and continues to expand, as India has the ambition to become the refining hub for Asia. Moreover, India houses the world's largest refinery at Jamnagar in the Gujarat district in Northwest India. Consequently, its crude imports outstrip the domestic demand, as India is one of the largest exporters of petroleum products. No doubt then, that oil and oil products are the largest constituents of India's imports and exports at 30% and 19% respectively.

Worth noting here is that though India's current refining capacity is only about 30% of China's, it exports a higher volume of oil products as can be seen in the graphic to the right.

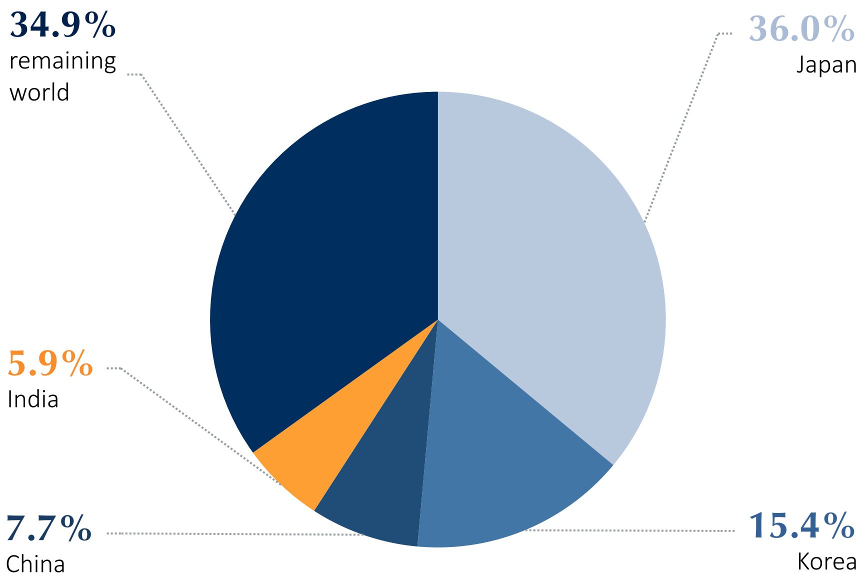
This has a major bearing for shipping as India not only tends to import more crude due to its expanding refining capacity, but at the same time, its seaborne exports are also rising.

LNG AS A CLEANER ALTERNATIVE TO COAL

According to a new report by Moody's Investors Service, India, already the fourth-biggest LNG importer behind Japan, South Korea and China, is expected to double its LNG imports in the next five years, hence reaching 24m tons per annum by 2020. This implies a stunning 15% compound annual growth rate from 2015 to 2020. Rising industrial demand, sustained weakness in oil-linked LNG prices and falling domestic gas production are driving this surge.

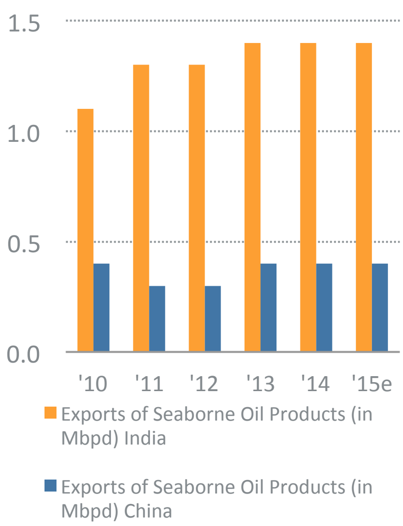
Gas accounts for almost 8% of India's energy demand and the government wants to lift its use versus coal to cut pollution. As such, Indian government's efforts to revive gas-based power generation could provide a further boost to these projections.

INDIA A RELATIVELY SMALL BUT INCREASINGLY IMPORTANT PLAYER IN LNG MARKET



Source: Clarksons 2015

INDIA A BIGGER EXPORTER OF OIL PRODUCTS THAN CHINA



Source: Clarksons Oil & Tanker Trades Outlook Sep. 2015

LPG EXPECTED TO CONTINUE ITS EXCEPTIONAL GROWTH

Consumption of LPG in India has increased at 20% average annual compound growth rate over the past five years. Consequently, in 2014, India has emerged as the second largest importer of LPG after Japan having marginally overtaken China and Korea.

LPG in India is primarily used for cooking and home heating purposes. The combination of economic growth and displacement of more CO_2 intensive heating alternatives, e.g. wood burning, should continue to drive demand for LPG. Consequently, Wells Fargo projects this trend to continue over the next few years, independent of oil price fluctuations.

CONCLUSION: HUGE POTENTIAL FOR GAS DEMAND

India is currently the world's second largest LPG importer, third largest oil importer and fourth largest LNG importer. It plans to expand its refinery capacity and use more gas for cleaner and more environment-friendly energy. Even if India continues to consume a fraction of the per-capita energy consumption in the US, its energy requirements will be growing at a steady rate given its expanding middle class and its economic aspirations. India will become more and more a global economic force to reckon with.

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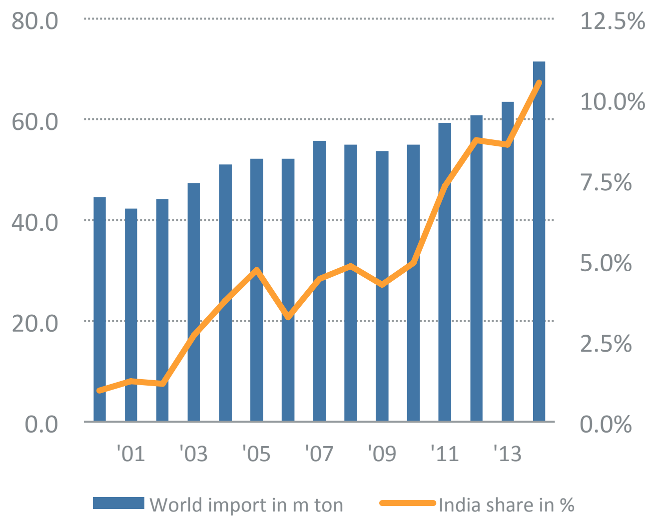
OECD

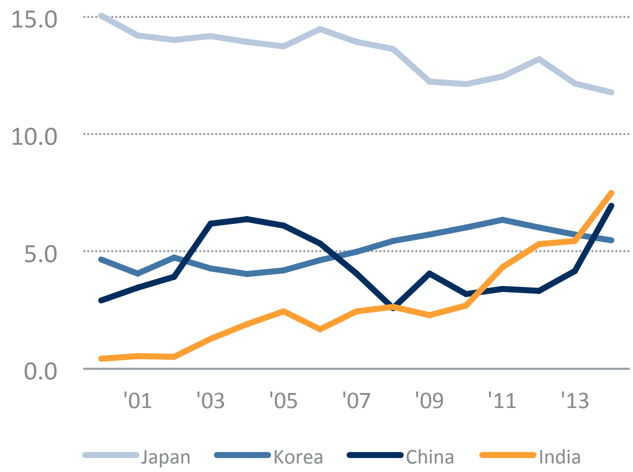
Poten & Partners Weekly opinion Nov. 6, 2015

INDIAN LPG GROWING EXPONENTIALLY



Source: Clarksons 2015

INDIA CONSTANTLY INCHING UPWARDS TO OVERTAKE OTHER PLAYERS
(SEABORNE IMPORTS IN M TONS)



Source: Clarksons 2015

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