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Emerging Super-Powers or Emerging Economies: The Energy Factor in the Rise of China and India as Major Players in the World Economy[1]

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ABSTRACT The title for this paper stems from the researcher's attendance over the last few years, at several conferences run by institutions in India and South Africa, and through increased literature surveys in the roles played by China and India in the African continent. It is almost inevitable, that in discussing the increasing investments by these two countries in Africa, that a deeper look be taken at their levels of energy consumption. This paper takes the position that it is in understanding China's and India's exploitation of their own energy resources and their imports of the same that a clearer understanding can be grasped about the hype around either one or both of these countries surging towards superpower status. Both countries are becoming increasingly known for the competition that they are providing against North American and European Union hegemonic interests in the world and both are being bandied about as emerging superpowers. But not enough is known about why such expectations are ascribed to them, and not enough is known about what should be scrutinised to justify this expectation. Analysing China's and India's energy usages is one way of acquiring a glimpse into the reasons for attributing to them statuses of emergent superpowers.

INTRODUCTION

However, the world is beginning to admit to an emerging new global order that places China and India at the forefront of new strategic alliances that would otherwise have been forged with the USA or western European countries. These alliancesspan across theworld and appear to be eroding the hegemonic base of the original group of G7 nations.There are compelling reasons why China and India should be respected if not feared by their more established western forbears as emerging superpowers when viewed against their past performances. Evidence of this is amply available in the historical assessments of each of the two countries GDP statistics over last few centuries. In the 18th and 19th centuries both countries jointly controlled about 44% of the world's GDP. However, the twentieth century witnessed a rapid decline in the significant volumes of trade that they once controlled – they slipped to 16.4 % of the global GDP in 1913 and to 8.7% by 1950. But after strenuous recovery programmes and competition against the powerful west, their share in the global economy rose to an average of 12.59% in the decade spanning across 1985 and 1995, and further increasing to an average of 16.88% between 1995 and 2003. At contemporary rates of performances it is estimated that there will be significant increases in their respective capacities to the effect that by 2025-30 they will once again reach a greater than 40% control of the world's GDP (Roy 2012: 2). While both nations have regained a fair amount of lost ground, this cannot be seen in isolation from their respective histories. At least two aspects are of significance here. Firstly, both nations were victims of European imperialism since the 17th century and both suffered the consequences of international abstraction by their conquerors, significantly reducing their claims in the gross world GDP. And secondly, while both countries achieved high growth rates of late, their models of development were quite different. China, after World War Two has become renowned for its centralised state-led control, which over the last two decades has increasingly embraced the private sector. On the contrary, India opted for a 'mixed' state and market based approach that based on a system of universal franchiseafter independence in 1947.

It is therefore not surprising that China's and India's rising prominence has acquired a momentum that is bringing about positions by their western competitors that are juxtaposing eco-

nomic interests and geo-political alliances not only between the established west and the emerging east, but also between India and China themselves. As much as India has admitted that they are about 25 years behind China in their development progression within India, there is a sense of confidence that they will catch up within the next two decades. The test however, is not only what they can achieve through development within their respective countries, but also how they build alliances internationally in terms of mutually beneficial trade, services and cultural agreements. As their respective economies develop and their populations increase, there is a concomitant rise in the need for more resources. These realities add to the pressures of keeping pace with public demand for more resources, employment opportunities and a convincing vision of where their governments are taking them. This situation demands increased access to facilities outside of their national boundaries, necessitating encroachments within all of the continents in the world. Their rising visibility in the eyes of the world has produced a situation that is akin to a race for the world's resources by China and India. This is why Friedman (2012) in his opening sentence of the Foreword to Nandan Nilekani's book: *Imagining India: The Idea of a Renewed Nation,* humorously stated an oft sighted but politically loaded question:"Every time I go to India, people ask me about China. Every time I go to China, people ask me about India. Who's going to win between these two emerging nations?"(Nilekani 2012: ix).

Friedman's metaphoric use of giant superhighways to compare both countries provide a chilling anticipatory forecast that can only keep the world guessing about the sustainability of totalitarian states like China and the future of development in a country like India where multiparty democracy is weakened by the rise of regional partiesand endemic corruption. While China's swift advancements in infrastructural developments are due largely to it being a one-party state led by the Communist Party, India's slow and jagged pace of development is due to weakened national parties that often depend upon coalition party support to make meaningful decisions. It is often viewed as the main reason why China is way ahead of the development trajectory than India.However, numerous views provide a spectrum of opinions of why this is the case. Amartya Sen for instance views India's lagging behind as a result of lower investments in education and health care than China. His justifications lay with the statistics which reveal that while India's literacy rate is 74%, China's is 95%; and while India's mortality rate in 2011 was 65 years, China's was 75 years. Statistics of this nature begs a crucial question: how is it that while multi-party democracy is touted as a preferable model to a single party totalitarian state, China is making greater progress than India?" While Amartya Sen might be correct in his reasons for China's lead over India, his positions are not without opposition. Commentaries on China's relative progress abound with critiques about why it is not as impressive as made out to be.

Friedman (2012) for instance describes the Chinese superhighway as perfectly paved, with sidewalks everywhere, with streetlights and road markings neatly down the centre of the road. But a sizeable segment of its more than 1.3 billion people are aware of alternative models of political governance whose frustration with Communist Party rule will be shaken by speed bumps called "political reform". On the contrary, India's superhighway is marked by potholes, unfinished sidewalks, dysfunctional streetlights, and no visible lane dividers. All chaotic, yet it is always on the move. However, in the distance is a 6-lane highway that matches the perfection of the Chinese highway. But, Friedman asks: Is it a mirage or an oasis? Will India one day claim its future or will it always be chasing it? Friedman's teacher, Nandan Nilekani, is determined to ensure that it is an oasis, not a mirage.

SOME CORE ISSUES ON CHINA AND INDIA

There are several commonalities that both China and India must confront in order to transcend the constrictive limitations from which they work. The most crucial of these are their phenomenal population sizes, endemic poverty and the unavoidable reliance upon acquisition of minerals and energy resources from other continents. China's population of nearly 1.4 billion and India's population of nearly 1.25 billion accounts for almost 40% of the world's population. Their disadvantages must be seen against the background of their historical disadvantag-

es as colonies of outside forces. Their impacts were felt in the hindrance of their growth from within their own ranks, the abstractions that their economies had to suffer to meet the needs of foreign economies and imperialist tendencies, and colonialist control and reorganisation of their economies and labour that led to redundancies and consequent poverty on a massive scale. Post-colonial independence and the maturing of their ideas spawned through organic and internal creativities has since the mid-twentieth century, forced both countries to strike a balance between looking inwards and looking outwards. Each of the state's inward introspection must have at least two common goals viz. political and economic stability in order to avoid the rise of anarchy within; and to create conditions to absorb the huge numbers of redundant people to put them back to work.

CHINA AND ITS ENERGY REQUIREMENTS

In China the state has realised the need to interact with capitalist forces within their own boundaries, especially since their acquisition of Hong Kong and Macau has created a situation of 'one country-two economies'. There is the realisation now that Mao Tse Tung's proverbial condition of: *"from each man according to his ability to each man according to his need"*, cannot possibly remain sustainable in a globalised economy. Such an adage is an ideal that goes against the rising tide of individualism in China,facilitated by the country's incorporation of their two highly commercialised islands.The fall of socialism cum communism in Eastern Europe, the (former) USSR and the Balkans, has driven home some crucial realities about the productivities in individual innovative tendencies and the need for recognition of self upliftment through entrepreneurship. While China is still viewed as a communist one-party totalitarian state, 'free enterprise' within the country is taking root at a rapid pace. The manufacture and export of cheaply produced Chinese goods is not only dominating the world in this category, but is also having the reverse effect of making people redundant in numerous industries. In textile manufacturing for instance, South African workers and entrepreneurs have suffered immensely against cheap imports from China. Thousands of unskilled, semi-skilled and skilled workers were rendered unemployed because their employers were unable to sustain their enterprises against such low cost textiles. China's ability to swamp overseas markets with cheaply produced material and finished products rests on its determination to become an export oriented economy, an aspiration that is supported by its refusal to allow its currency to become free floating. By devaluing its currency to the tune of at least 30% China has ensured that its manufactured and unfinished export products reach the international markets at significantly lower prices, often to the detriment of local industries in foreign countries. Against their enormous efforts in building an economy that interfaces with the rest of the world in increasingly competitive ways, there lays an ever-increasing need to meet the requirements of these outward economic ventures with requisite energy needs. In 2005, one-third of China's green-house emissions were a result of what was manufactured for export (Peters 2008).

Robert Wilson (2014) focussed upon several colossal aspects about China's energy requirements post-Kyoto 1997. Despite an international agreement against carbon emissions and the need to focus upon alternative types of fuel with low carbon emissions, the world's use of coal increased at least eight times more than the combined use of wind, solar and nuclear energy. Coal also increased significantly against the use of oil and gas over the last 25 years. From the total growth of coal consumption in the decade of 2003 to 2013 China capped 87% of it, and has since been tagged with 50% of the world's consumption, making it the world's largest consumer. In 2007 China became the biggest coal producer in the world and by 2010 it became the world's largest consumer of it (Galluci 2014).

China is also becoming a major consumer and producer of steel and cement. Both of these are characteristic of enormous amounts of energy usage and consequent carbon emissions. Out of this emerges a more astounding calculation that China has used more cement in the last three years (2010 to 2013) than the USA did in the last century. The rapid rise in the production of cement in China and the increased processing of steel has placed the country ahead of the USA in its carbon emissions. While the USA still remains the biggest economy in the world China is now only second to it, transcending the GDPs of Germany and Japan. Both of the latter coun-

tries as well have acquired a reputation for their increased use of coal, despite accepting the Kyoto protocol.

China has realised the limitations of dependence upon fossil fuel in the longer run, and have sought to enter into mutually beneficial trade agreements with countries that that have been perceived to have not been traditionally close trading partners. Watt and Isachenkov (2014) have reported on a gas deal between China and Russia that was allegedly discussed over the last ten years before being finalised. The agreement was signed at a time when Russia's relationship with the USA and the EU (European Union) has ebbed to the lowest point known since the start of the Cold War. It is a 30-year deal that gives the Russian gas industry a $400billion boost across this period. Annual supply will amount to 38 million metric tons of gas per year, addressing China's current consumption requirement of 150 million metric tons per annum.

In oil consumption as well, China is surging ahead with bilateral agreements with all of the major oil producing regions of the world. In 2012 China had upped its already existing order of one million barrels per day by another 400 000 with Saudi Arabia (Defterios 2012). In order to ensure a continued supply of oil and maintain its growing energy needs, China has went on to sign deals with numerous other middle eastern countries such as Kuwait, Iran and the United Arab Emirates. Energy needs are often coined as "energy security", which when viewed against several fundamental concerns, places the concept in its proper context. China for instance depended upon the provision of military security in oceanic corridors by the American navy. As its own consumption needs increases and it competes increasingly with the USA for middle-eastern oil, there is an uneasy feeling that they will have to provide their own security arrangements. Secondly, there is an entrenched view among the Chinese that they have to ensure a reasonable build-up of reserves as the demand for energy resources become ever more prevalent in the world. And thirdly, its sheer population size will require the state to be adequately prepared to meet its obligations in times of dire need, especially during crises that could affect them at unexpected times. It is for reasons such as these that China presently leads the world in renewable energy production. At least 17% of China's electricity is generated by wind power, encouraging investors to pour in at least US$65bn into further research and development. It is estimated that by 2030 China will become almost entirely dependent upon wind power for electricity requirements (Handley 2013).

INDIA AND ITS ENERGY REQUIREMENTS

India has always relied upon locally based industries to service consumer needs and contribute towards its GDP. Unlike China, India's policy has been, despite their seeming chaos andalleged prevalence of endemic corruption, to ensure satisfaction of local needs before reliance upon export markets. It was this tendency that allowed the country to cushion itself against the stock market crashes in 2008 – when a number of countries put an immediate halt to imported goods for fear of losing their foreign reserves and future clout in purchasing power. But India also realizes the need to build upon its export market as well as attract more foreign direct investment (FDI) within its borders if it is to compete more successfully in the global market. Recently appointed Prime Minister Narendra Modi made a signal speech on India's Independence Day when he called out to the world in English, amidst his mainly Hindi speech: *"Come, make in India"*.Whether in their endeavours to satisfy internal local and national needs or export needs, the need for energy will be en ever present requirement, equally dependent upon resourcing such energy from outside its borders.

Against the background of its rapid economic growth over the last decade, there has been a commensurate rise in India's need for higher energy resources. Following the three leading energy consumers in the world viz. China, the USA and Russia, India presently ranks fourth among them, and its demand for more energy continues to rise. However, despite the country having large deposits of its own fossil fuels, by 2012 India's dependence on imported fuel rose to38% of its total requirements (Dunn 2014). The triad of its being the second most populated country in the world, with a vibrant economy and a growing middle class with increased purchasing power, makes its energy demands ever more crucial to its needs.

The country's newly elected Bharata Janata Party government, the first in more than 3 de-

cades with a single party majority, has an enormous challenge in ensuring adequate and appropriate energy supplies that will support its growing economy unhindered. As the country modernizes and increased numbers of people begin to abandon agriculture for an urban lifestyle, a major shift has occurred from utilisation of biomass and waste material to reliance upon more updated forms of energy sources, especially fossil fuels. But the country would still require internal and foreign investment for domestic hydrocarbonproduction as well as the infrastructural requirements that accompany it.

Although not on the same scale as China, coal is of equal significance to electricity production in India. It was only from 1990 that India began importing coal, which grew to almost 32% in 2012. Coal makes up 44% of the country's total energy needs, making it the most important source of energy in the country. Ironically, while India ranked as the world's third largest coal producer, consumer, and importer in 2012, the country has experienced growing shortages for several reasons. Firstly, increasing supply shortages are attributed to a lack of competition among producers; secondly there has been insufficient investments in the coal industry to improve production, technology and outputs; and thirdly, endemic problems with producers through complacency and lack of commitment to national goals. There have been similar kinds of inconsistencies in coal supply and demand. While demand increased by 7% per annum production rose by only 4%; and producers have failed to reach state provided targets. This has led to frequent shortages to power plants that generate electricity, continuously inhibiting a sustained flow of electricity, giving rise to ongoing blackouts all over the country. Since coal production in India is currently unable to keep pace with demand, there has been an increasing reliance on its needs with imports. Indonesia and India are India's main suppliers of thermal coal, which is crucial to the generation of electricity in India. In the production of steel and cement, industries have grown more reliant on the use of coking coal for their production. Australia is the largest supplier of coking coal to India because its reserves in this sector are very limited.

However, despite India being among the high-end consumers of coal, there is an irony that is very peculiar to the country viz. while India imports most of its coal, it has one of the biggest reserves of the mineral in the world. India alone accounts for about 10% of the world's proven coal reserves, at over 101 billion tons (thermal and coking). This quantity places India behind only two countries – the USA and China. If India maintains its current rate of consumption, it will be able to use the coal for at least another 200 years. Most of India's coal reserves are of the non-coking category(grades E, F, and G), which is used mainly for the generation of power, and the production of cement and fertilisers. The country's lignite reserve is estimated to be in the region of 38.76 billion tons, of which almost 80% is found in the Neyveli area in the southern state of Tamil Nadu[1].

Akin to coal consumption, India was the fourth largest consumer and net importer of crude and petroleum products in 2013. In in this hierarchy of consumers India is preceded by the USA, China and Japan (in order). India's per diem production rate is significantly behind its rates of consumption – with its daily requirement standing at 3.7 million barrels per day (bbl/d) while its production rate stands at around 1 million bbl/d in all of its liquids production. The biggest demand in India is for gasoline and gasoil, which are especially in need in the industrial and transportation sectors. Kerosene and LPG are mainly in demand in the residential and commercial sectors. There is a tendency among analysts from the western countries to believe that subsidies that are provided by the state to its citizens is impacting upon India's ability to invest more in crude oil and liquids production. Between 1990 and 2012 India's dependency on oil imports rose from 43% to about 71%, with Saudi Arabia being its main supplier, followed by countries in North and South America, especially Venezuela, and countries in Africa, especially Nigeria. India also has a petroleum plant in Sudan, although it is still in its formative stages of development. The pipeline stretches over 741km and is almost entirely owned by Indian investors. However, in February 2014 it was reported that the Indian oil company together with other investors from China and Malaysia had to flee rebel attacks against them because they were strategic targets, forcing Sudan to look west for its oil and gas resources[2].

India's use of imported natural gas is a recent phenomenon. It was only since 2004 that India began importing liquefied natural gas

(LNG). This demand for LNG grew as the country's internal production lines were being outstripped by increasing demand, largely because the country was unable to build the infrastructure required for natural gas pipelines on a national level. Anil Jain's (2012) book is a recent analysis about the economic transformation in the natural gas sector in India. It exemplifies a core question that underlies policy debates: how to make the transition in India more efficient economically, whilst meeting distributional objectives that will extricate the country's poverty stricken masses out of their ongoing dilemma. Jain presents India's experiences in this transitional period as instructive to the changes that developing economies are undergoing themselves in the acquisition and provision of natural gases. The transition in the gas sector in India is reflective of the changes that the country has adopted since it moved away from a centrally administered system to one based on neoliberal market principles. The central thrust of Jain's book is that the transitional situation should not be simplistically understood through the conventional three-fold terms of demand and supply being balanced by price. In India demand and supply are often influenced by various factors, but have been ingeniously kept in balance by a complex system of administered pricing and quantitative allocation. Distortions in the pricing of gas do tend to mount, but are swiftly modified, usually in the broad direction of liberalisation and reform. Policy makers in India have often had to respond creatively to their peculiar situations and introduce reforms that were specific, but only partial. This often gives rise to added challenges, which are often met by subsidization costs that offsets possibilities of disturbances in the evolving of policy drives in the acquisition and provision and of gas.

In 2013 India ranked fourth among the importers of LNG, only in this instance all of the countries were Asian viz. Japan, South Korea and China. Collectively, these four countries use of LNG amounted to 6% of the total usage in the world. India's import of LNG, based on long term contracts with Qatar, was, in 2012, equivalent to about 29% of its 2.1 trillion cubic feet (Tcf) of consumption. LNG has several uses to it – in that it is used as an alternative to coal in the generation of electricity, as well as a substitute for liquefied petroleum gas and related petroleum products in fertilizer production and other sectors in India.

CONCLUSION

It is clear from the evidence on energy usages by both China and India, that their economies are rapidly transforming in ways that are bringing them up to speed with the most developed nations of the world. Some of the strides that they have made in infrastructural development and in areas such as information technology must by their very rapid paces be considered as superbly impressive. That China has used an amount of cement in just three years that the USA has used in a century, and that it is now also the world's largest consumer of coal are convincing indicators about the power of its economic momentum. China's entry into the world market with products that are cheaply produced have had effects that are seriously juxtaposed to each other. On the one hand they have an appeal that makes it difficult for consumers to ignore because they are lowly priced and aesthetically when new. When viewed against the fact that one-third of China's exports contributed towards the country's increased use of imported energy, it becomes clear how rapidly the country's economy is advancing towards becoming a major player in world economics. But on the other hand, China's cheaply produced goods have displaced large numbers of the work forces in a number of countries throughout the world. The importation of Chinese products, especially in developing countries have therefore arrived at a tremendous cost to local economies. China's increased use of petroleum products and their bilateral agreement with Saudi Arabia and other Middle Eastern countries for increased supplies of fuel is significant. Their consumption levels have risen to a point of favorably matching the USA and other developed EU economies. Coupled with these achievements is the rise of the Chinese military,which is now only second to the USA's navy, air-force, ground forces, and in medium and long distance missile strike-ranges. China's current lead in renewable energy sources as well is indicative of its determination to take a lead in breaking their dependence on depleting fossil fuels. Its advancement in wind technology for instance is expected to be able to generate electricity throughout China by 2030. If other already de-

veloped economies are unable to match this anticipated achievement, it will by the third decade of the 21st century place China in a significant lead against its competitors.

India too has shown significant rise in energy consumption that is only beaten by its Asian competitor, China. The country's adoption of a free-market economy based on neo-liberal principals had a significant effect in its upward mobility in world economics. This decision had opened up India's economy to the major players in Multinational Corporation economic venturing and has allowed India to market some of its best trained professionals internationally. Learning and communicating in the English language has placed Indian graduates and experienced professionals in very favourable terms with other English speaking countries where their expertise was/is needed. Indians have capitalised on this so substantially that professional expertise has become a major factor in India's export industry. This is helping Indian foreign reserves annually, through remittances, to the tune of billions in the major currencies of the world. That it has become the fourth largest consumer in most sectors of the energy market is indicative of India's rise to a bigger share in the world economy. While India's current performances across their economic spectrum is significantly behind China's, it has excelled in several fields that has provided a basis for greater confidence in their scenario planning for the future. The IT industries' in Bangalore and Hyderabad, for instance, has placed India in a competitive edge that now allows it to match the best minds in the computer software industry. Now dubbed as the Silicon Valley of India, this sector has inspired confidence among statesmen and women in India in ways that has had positive ripple effects in other sectors of their economy. India's biggest drawback however has been its overly democratic practice of debating and discussing, and often ending up in stalemate situations and complacency to go ahead with important national projects. This has undoubtedly contributed to a lack of competition in the coal industry and its subsequent stagnation in advancing towards greater heights in exploiting energy sectors such as the coal industry.

While China's and India's surge towards greater heights in economic performances has added to the discourses on an emerging new world order, it is too soon to say whether either can aspire towards superpower status in the next few decades. While Japan was forecasted to become a superpower in the decade of the 1980s, this expectation failed to materialise. Only the USA enjoys such status currently, and is unlikely to be displaced from such thisposition unless either country turns their economy around with an unexpected swiftness, which is possible, given China's very extensive and intensive use of energy sources.

NOTES

1 http://www.adanimining.com/Indian-Coal-Reserves
2 http://www.platts.com/latest-news/oil/london/south-sudan-invites-new-international-investment-26700255

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