India in a Middle-Income Trap: Issues and Challenges

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Abstract

The paper examines the notion of middle-income trap (MIT) in Indian context. If India needs to escape MIT, what are the key policies and strategies it requires to adopt and design at national and sub-national level? Do changes in policies and public spending play an important role for India to escape this trap?

The methodology involves in-depth analysis and interpretation of gradualism in India's economic transition. Based on select secondary data the author highlights some trends at sub-national and national level in India with focus on GNI per capita, education and healthcare sector, fiscal management and nature and pattern of public spending, centre-state resource allocation. Suitable analytical tool has been consulted to gauge the impact of different dimensions.

Key findings suggest that there is a significant relationship between GNI and expenditure on health and social sector reiterating the argument that improved and affordable health care boost GNI per capita. With 1 percent change in expenditure on health in the total GDP, the GNI per capita in India is changing by 15.524 percent. Similar trends also found in case of education and GNI per capita but not in all contexts. Factor like carbon emission is not significantly impacting the change in GNI per capita.

The paper makes suitable recommendations to promote indigenous innovation, skill development, investments, access to and use of digital technology, pro-poor spending, etc. in regional and group contexts that can gravitate India to the next level and possibly to escape MIT.

Key words: MIT, growth, public spending, social sector, India

JEL classification: I3, O1, O2, O3

Introduction

Current global economy is showing some signs of rebounding and recovery in first quarter of 2021 Amid exceptional uncertainty caused to due to Corona-19 pandemic, the global economy is projected to grow at 5.5% in 2021 and 4.2% in 2022.[1]

In midst of such unimpressive but modest recovery in world growth, it is expected that India's economy to contract 7.7% in 2020-21, before witnessing a sharp recovery of 10-12% in 2021-22. Assuming all the structural reforms will be carried out announced by the government in its recent Union Budget declarations 2021 and proposals the economy may grow at its trend growth rate of 6.5% in 2022-23 and 7% in 2023-24.[2] India has emerged as one of the fastest growing major economies in the world. This was possible due to considerable improvement in India's economic fundamentals such as strong governmental economic and financial reforms; central bank's astute handling of inflation, resilience shown by India's services sector, the support extended by benign global commodity prices and easy management of foreign exchange reserves.

India is currently recognised a bright spot. India's gross domestic product (GDP) at factor cost at constant (2011-12) prices in 2015-16 is Rs 113.5 trillion (US$ 1.668 trillion), as against Rs 105.5 trillion (US$ 1.55 trillion) in 2014-15,[3] registering a growth rate of 7.6 per cent. The economic activities which witnessed significant growth were financing, insurance, and real estate at 11.5 per cent and trade, hotels, transport, communication services at 10.7 per cent. According to a Goldman Sachs report released in September 2015, India could grow at a potential 8 per cent on average during fiscal 2016 to 2020 powered by greater access to banking, technology adoption, urbanization and other structural reforms. India's GDP was registered at US$2.875 trillion in 2019, 2.713 trillion in 2018 and 2.653 trillion in 2016.[4] However in its report 2021 in the event of global Covid-19 pandemic, it has upwardly revised its projection to 10.3% contraction from -14.8%. It expects that Indian growth may pick up better in the months ahead as the high contact consumer driven services such as banking, tourism, hotel industry, event management are going to take off which have remained significantly low below pre Covid levels. The speed of the rebound will be contained by some economic scarring and a number of factors including a weak labour and skilled labour market, the hit to private sector incomes and balance sheets, tighter credit supply conditions and a limited fiscal impetus. [5]

All these economic indicators are extremely encouraging for an emerging economy like India. But what about the social indicators? Are they as encouraging as economic? When one looks at the data, it is noticed that India's rank remains unchanged in the Human Development Report (HDR) 2014, 135 out of 187 countries, despite some acceleration made

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[1] World Economic Outlook Update, IMF 2021 at https://www.imf.org/en/Publications/WEO accessed on February 28, 2021.

[2] Economic Survey 2020-2021, Ministry of Finance, Government of India

[3] Central Statistical organization, Ministry of Statistics and Programme Implementation, Government of India

[4] World Bank available at https://data.worldbank.org/country/india accessed on December 12, 2020.

[5] https://www.goldmansachs.com/insights/pages/gs-research/india-macro-outlook-2021/report.pdf accessed on February 28 2021

on its road towards achieving the sustainable development goals (SDG).[6] However in 2020 India marginally improved its position from 135 to 131 in its human development index registering 0.645.[7] Instead of having a significantly higher gross national income than other countries in the region like Bangladesh (142) and Pakistan (146), India's ranking remained low because of poor social indicators. While it still managed to remain marginally above the two countries, India suffered the ignominy of having the lowest life expectancy (66.4 years) and the lowest mean years of schooling (4.4 years) in the South Asian region.[8]

According to the UN HDR 2014 India also has the lowest Human Development Index (HDI) among all BRICS nations, with its life expectancy higher only than South Africa which is still grappling with second generation HIV-AIDS patients. Russia, Brazil and China are in the high HDI category with rankings of 57, 79 and 91 respectively. India's current ranking in UN HDR is 129 having HDI value of 0.64.[9]

A look at the social indicators suggests that India's performance has been abysmal compared to its neighbours. India is currently placed in middle income group. As of July 2015, low-income economies are defined as those with a GNI per capita, calculated using the *World Bank Atlas* method, of $1,045 or less in 2014; middle-income economies are those with a GNI per capita of more than $1,045 but less than $12,736; high-income economies are those with a GNI per capita of $12,736 or more. Other neighbouring nations such as Bangladesh, Bhutan, Myanmar, and Pakistan are also in the same category, despite having their economic indicators much lower than India's and economically much weaker than India.

Then, why such a paradox in the case of India? Many emerging economies in Africa and South Asia are found to be in the middle-income group. Will these countries including India graduate to a higher income group or will they continue to remain in the middle-income category, otherwise known as 'the middle-income trap?[10]

The term 'MIT' was defined by Gill and Kharas (2007) and received attention during the early 21st century. In their report 'An East Asian Renaissance,' they interpreted MIT as a phenomenon where certain countries can be ranked as middle-income countries. These bunch of countries are squeezed between low-wage poor-country who have high incidence of poverty, whose marginal propensity to consume (MPC) is closer to 1, suffering from low wages and low productivity and are largely dominated in low-end labour intensive industries or mature industries and rich-country which are tech savvy and innovators and are dominant players in current services and high end industries.

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[6] Earlier it was known as millennium development goals (MDG). On September 25th, 2015, countries adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets to be achieved over the next 15 years.

[7] http://hdr.undp.org/en/content/latest-human-development-index-ranking accessed on February 28 2021

[8] UNDP, HDI Report 2014 available at http://hdr.undp.org/en/content/2019-human-development-index-ranking,accessed on July 05, 2018

[9] UNDP HDR 2019 2019 availbale at http://hdr.undp.org/en/content/2019-human-development-index-ranking accessed on December 12, 2020

[10] The term "middle-income trap" was apparently first used by Gill and Kharas (2007); see also Commission on Growth and Development (2008). "Middle-income economies" are defined in accordance with the World Bank's classifications by income group, as given by http://data.worldbank.org/about/country-classifications.

The notion of a 'MIT'[11] has gained currency in recent years. Serious academic attention has been drawn on the policies that facilitate economic growth in middle income countries. Region like East Asia which is home to a number of economies have managed to graduate from middle-income status to be classified into the high-income group of economies. Japan, South Korea, Taiwan and Singapore all have caught up to technologically advanced countries. These people enjoy high incomes and high consumer satisfaction.

Yet world-wide only 13 out of 101[12] middle-income countries have been able to move to high-income status since 1960. China and other countries in Southeast Asia have succeeded in emulating rapid catch-up growth out of poverty but have yet to make the transition to high income. Thailand and Malaysia appear stuck in the middle. India, the Philippines and Indonesia are at a lower level of development but are growing fast. Policymakers are already beginning to contemplate how they can join the ranks of the world's advanced economies.

This paper aims to examine what is middle-income trap; and what are the characteristics of MIT? It seeks to establish whether India will be able to escape this trap? What factors led India to rise from low-income to middle-income nation? If India has to escape MIT what are the key policies and strategies that India needs to adopt and design? Are factors like GFCF, Savings, GNI per capita and productivity contributing positively to graduate to higher growth trajectory? Does social sector, i.e. health, education etc. play any role in escaping such trap?

Review of Literature

A number of studies have been conducted on the issue of MIT and how countries are stuck in the middle. What kind of impact it has on human development? How different governments have acted upon certain key policies and strategies to accelerate the growth of the economy so that countries can escape the MIT and reach the high-income status. Some of the studies conducted have highlighted the impact of economic growth on socio-economic factors such as health, education, employment, sanitation, which otherwise become huge challenges for the country to escape this MIT.

Pierre-Richard Agénor et al (2012) in a seminal work has observed, since the 1950s, rapid growth has allowed a significant number of countries to reach middle-income status; yet very few have made the additional leap needed to become high-income economies. Rather, many developing countries have become caught in what has been called a MIT, characterized by a sharp deceleration in growth and in the pace of productivity increases. It further opines that 'middle-income traps' are stable low-growth economic equilibriums where talent is misallocated, and innovation stagnates. Policies that can counteract middle-income traps are a number of public policies that governments can pursue, such as improving access to advanced infrastructure, enhancing the protection of property rights, and reforming labour markets to reduce rigidities—all implemented within a context where technological learning and research and development (R&D) are central to enhancing innovation. Such policies not only explain why some economies—particularly in East Asia—were able to avoid the MIT but are also instructive for other developing countries seeking to move up the ladder and

[11] The term was only invented a little over a decade ago by Gill and Kharas, 2007.

[12] the World Bank (2012) estimates that of 101 middle-income economies in 1960, only 13 became high income by 2008—Equatorial Guinea, Greece, Hong Kong SAR (China), Ireland, Israel, Japan, Mauritius, Portugal, Puerto Rico, the Republic of Korea, Singapore, Spain, and Taiwan, China

reach high income. The paper likes to recommend that implementation of such favourable policies must be carried out early by the government so that countries can graduate from MIT to higher income countries. East Asian economies especially 'tiger economies' are a prime example of this phenomenon.

In another important study by Barry Eichengreen, et al (2011) where they explained rapidly growing economies slow down significantly, in the sense that the growth rate downshifts by at least two percentage points, when their per capita incomes reach around US$ 17,000 in year-2005 constant international prices, a level that China should achieve by or soon after 2015. What policies China followed to pursue higher growth were bringing down the tax rates on incomes and products as well as undervaluing its exchange rate for substantial period of time. Both helped China to notice a consistently higher growth. This widening of domestic consumption and boost to export led growth helped China to relatively register higher growth vis-a vis other advanced economies. In absence of any safety net, people in China saved more for any precautionary purposes. So rise in GDP helped China to provide better income to the society and less emergence of poverty was noticed. Such policies helped China to move to relatively higher income level.

In some circles, the assumption is pervasive that China will continue to grow rapidly. Equivalently, it is assumed that China will be able to avoid the middle-income trap and jump to upper-middle-income-country status. But it is worth recalling that only a small group of countries successfully completed this transition in the second half of the 20th century, whereas a much larger group, in Latin America for example, are still struggling to escape the middle-income trap. Given China's huge size and daunting array of structural challenges, completing this transition will be rather difficult.

Another significant study conducted by Spence (2011) suggested a fixed threshold should be proposed to indicate which economy is under the MIT. He observed that a range between $5,000 US and $10,000 US per capita (PPP) income could be an ideal range to observe MIT. He argued that this is the stage of development at which the transition to higher-income levels becomes challenging. Hence many economies may not be able to graduate to higher income level.

Dani Rodrik (1999) argues that domestic social conflicts are a key to understanding why growth rates lack persistence and why so many countries have experienced a growth collapse since the mid-1970s. It emphasizes, in particular, the manner in which social conflicts interact with external shock on the one hand, and the domestic institutions of conflict-management on the other. Countries that experienced the sharpest drops in growth after 1975 were those with divided societies. It suggests that it is important for countries to create institutions that can handle social conflicts. Rule of law, democratic institutions, and social safety net to be in place to tackle volatility in the external environment which drops economic growth, hence can affect the possibility to graduate out of this trap.

During last couple of decades, the so-called definition of MIT is experiencing certain changes. The debate persists because the countries which have attained high income status are not clear what the trap refers to as there is no accepted definition. The word "trap" is, to some extent, misleading for it is difficult to argue that countries that have attained middle-income status (especially those in the upper middle-income segment) are presumably in a trap (Felipe, 2012). The author tries to suggest what economies need to do in order to avoid such

trap. Current economic development would depend how countries maximising their productivities and how they are diversifying their product base to earn higher per capita. They should identify the strength in the products that have export potential and firms must possess such capabilities. The primary driver of growth is the gradual build-up in firms' capabilities, which raises the economy-wide real wage. another important study entitled, Lee (2013) argues despite economic development, aid, and policy changes in line with the prescription of Washington Consensus some countries are unable to catch up with the advanced countries' development. Poverty remains the main hindrance and is widening year after year. Reason why good policy prescription like opening up and integration with the world economy is somewhat failing is due to poor institutional conditions such as lack of corporate governance, insecure property rights and absence of rule of law. Lee further highlights the significance of 'second generation' reforms which are somewhat redefined as augmented Washington Consensus and replacing the old Washington Consensus. They include anti-corruption law, social safety nets, financial codes and standards, independent central bank functioning, inflation targeting etc.

Some of the studies indicate that countries that escaped MIT and made it into the upper-middle income group had a more diversified, export basket at the time they were about to jump than those in the lower-middle-income trap today, like South Korea and japan. Korea was able to gain comparative advantage in its balance of trade significantly and was well connected to Malaysia and the Philippines which are major importers of electronics form South Korea.

A study by Jesus Felipe, et al (2012) states that the median number of years that countries spent in the lower-middle-income and in the upper-middle-income groups are 28 and 14 years, respectively, before graduating to the next income group. It also stated that a country that becomes lower-middle-income has to attain an average growth rate of per capita income of at least 4.7 percent per annum to avoid falling into the lower-middle-income trap and emphasized upon encouraging exports of commodities with comparative advantage to move up to next income category. However, the paper did not focus on any other criteria avoid the MIT and reduce the duration of staying at same income category, once average growth rate of per capita income of 4.7 per cent is attained.

Egawa (2013) observed that income inequality can be considered as a major determinant for remaining stuck in MIT Countries need to improve such situation to get out of MIT. In order to assess the relationship between income inequality and the trap, the Kuznets hypothesis and the basic-needs approach were used. It is suggested that a low-income country could accelerate its economic growth with the worsening of income distribution as an engine. However, a middle-income country will experience a decreasing growth rate if it fails to narrow the income gap between the top and bottom income groups. It is also highlighted that the basic-needs approach is also applicable in practice, and it is significant to consider that improved access to secondary education plays a key role in augmenting the economic growth and thus reduces income inequality.

Certain economists tried to understand this phenomenon by using a catch-up benchmark for relative income levels. Some of the most interesting contributions in this category were made by Agenor and Canuto (2012), Bukowski, Halesiak and Petru (2013), Im and Rosenblatt (2013), Robertson and Ye (2013), and the World Bank (2012). In these articles,

the US is used as the benchmark country because: i) it is a high-income country, ii) for many researchers, it represents the technological frontier of the world, and iii) it is perceived as a country with a long-term balanced growth (Jones 2002).

Ohno (2009) and before him Garrett (2004) and others have taken a descriptive approach to defining the MIT. Ohno focused on the need for middle-income countries to move up the value chain and describes the trap as being a reliance on growth strategies that have natural limits, such as those based on natural resources or FDI inflows. He advocates for a proactive industrial policy, with technocratic government teams and strategic alliances with business driving progress forward.

A study by Margaret whitehead and Timothy Evans (2001) emphasized on problems related to development of heath sector in low- and middle-income nations. It specifies the introduction of user fee in public services and growth of out-of-pocket expenses for services posing a major threat of poverty trap. But these elements can impact the growth of per capita income at macro level, causing a problem for the nation to move to higher income category.

In another important study by Pritchett and Summers (2014) it was pointed out that the MIT doesn't connote much economic sense. It is being consistently argued by the authors that more and more countries are remaining stuck in the MIT, as they are exposed to certain volatility and this resulted in the mean reversion of their growth rates. Their reversal of growth rates may be happening due to other problems.

However, reversal of growth rates propels policymakers to believe that economy is trapped, and it needs some policy corrections. They tend to accordingly implement policies to address such uncertainty and impending challenges which are largely symptoms of the 21st century, while some countries are still experiencing 19th century problems to address. The authors prescribed two important reasons why the MIT concept is overstated. First, they pointed out that conceptually it is difficult to understand what the MIT truly means. Second, they provided new empirical evidence that rapid growth is a much more powerful predictor of the likelihood of deceleration than the level of income as such.

Whereas strong empirical evidence of the existence of the MIT were supported by Robertson and Ye (2013). The authors recommended their own, statistically testable definition of the phenomenon. The MIT can be visualized as a situation when long-term income forecasts demonstrate no inkling to converge to country levels or diverge below the middle-income band. They were of the opinion that the growth trajectories of a large number of middle-income countries were consistent with what would be expected if they were in the MIT. As a result, the authors argued that the concept stands up to scrutiny in a statistical sense.

A study by Eva Paus (2012), mentions of a 'capability approach' that suggests growth can be attained only when it is undergirded by the development of technological capability that results in broad-based upgrading. It further underscores the need for exports of commodities of comparative advantage but has moved a step forward to encourage exports of skill-based commodities which is possible on developing capabilities approach.

Islam (2015) took a different approach towards indicating classification of economies. He suggested fixed-income thresholds at different stages in time. He analysed GDP per capita for the years 1980, 1990, 2000, and 2010, and classified countries into the following groups based on the World Bank's categories: low-income (LI), lower-middle-

income (MIL), upper-middle-income (MIU), and high-income (HI) countries. This methodology focused on GNI per capita thresholds, which have been updated annually income group by the World Bank since 1989.

Kang and Paus (2019) suggest entrepreneurship and start up are currently gaining grounds as a boost to promote economic growth. The government need to put emphasis on creating favourable ecosystem for entrepreneurship by increasing the number of start-ups. Donors such as World Bank are inclined towards promoting start-ups as a new avenue for the lower and developing economies. A bold industrial policy with a clear 'mission-oriented' focus on innovation such as promoting start up is needed to promote the productive capabilities of domestic firms in developing and lower middle economies.

The authors also point out that studies, focusing exclusively on internal factors and on a set of variables which are independent from one another, do not offer a useful framework for understanding the MIT. Such an approach misses two critical challenges facing middle-income countries. These include the complex internal challenges of upgrading and building domestic innovation capabilities, with the requisite complementarities among factors. Secondly the impact of external forces, which may change over time, and which – in interaction with internal factors – create challenges for upgrading and moving towards more innovation-intensive activities. Countries' inability to cope with such challenges create an environment which becomes a trap-like situation for middle-income countries. Under such dynamic and difficult circumstances this study provides a judicious mixture of importance of economic ideas and political understanding that can alleviate position of such economies to look for a higher trajectory.

In another study it is highlighted by Hawksworth (2014) that important determinants for the economies to escape the MIT are the sustainable economic growth and quality political and social institutions. Many economies currently embedded or have access to technology, therefore it si not an enabler. Communication, IT, broadband and digitisation are processes of innovations that are ongoing. Rather, environmental sustainability is a long-term concern in some cases, ranging from the need to protect Amazonian rainforests in Brazil to worries about rising carbon intensity in India. So, countries need growth without destroying the natural resources and having stable political and social cohesion and unity.

Some authors have argued that countries willing to get out of MIT need to diversify and strengthen their products through value addition and thus try to create an efficient and robust supply chain. It is also important to consider that since some of these Middle-Income Countries (MIC) are witnessing rise in wages yet are not developing national innovation system to graduate from low skilled labour-intensive activities to highly intensive labour products (Im and Rosenblatt, 2013). India could be one among these countries not developing adequate innovation system. Developing countries have increased substantially enough to require graduation from low-skilled labour-intensive activities, but MICs have not yet developed national innovation systems -- or perhaps not even accumulated enough physical and human capital – to compete with high-income countries in more sophisticated products

Further, there are debates to include other parameters in world developments indicators database, Dr. Kaushik Basu, chief economist, World Bank, has stated to include in it the preliminary estimates of purchasing power parities, Gross Domestic Product, balance of payment, military expenditure, CO2 emissions, air traffic, foreign direct investments, etc.

While one has dealt with a plethora of literature to find out why some of the countries remain in so-called MIT for long, it is not easy to locate answer to such problem. Not many studies have been carried out especially in relation to India to explain why India will remain in the MIT for some time or how it can attain higher economic status to escape this trap. The issues that are deeply concerned to this challenge are not straight jacketed or simple rather they are extremely complex and intricate in nature. Analysing this body of literature, it is apparent that it's not just launching favourable or complementary economic reforms or designing polices, opening up to the outside world, and reforming country's trade policies or external sector or financial sector reforms that should allow the country to move to a higher economic status and thus escape this MIT. Rather challenges are many and far-fetched.

This paper therefore makes an attempt to examine the questions that are raised earlier in specific relation to India and seek to find out some suitable answers that can throw some light on this issue of MIT.

Research Methodology

The research methodology involves in-depth analysis of the concepts and characteristics of the MIT. The paper takes into account major variables such as annual wage rare, investment to savings, investment to GDP, capital output ratio and GNI per capita based at 2011-12 constant prices to examine how such variables indicate nature and dimension of MIT. It conducts a regression analysis by taking these variables into consideration to suggest which variable impacts the other.

It further believes other significant factors like health, education, pollution impact the productivity of an economy. It uses the graphical approach to further understand the scope of MIT with respect to India. An analytical approach is employed to establish the impact of health and education on gross national income (GNI) of India. In addition, analysis will be carried out to examine the relevance of various suggestions and policy initiatives that are undertaken to avoid the middle-income trap and aim for higher growth.

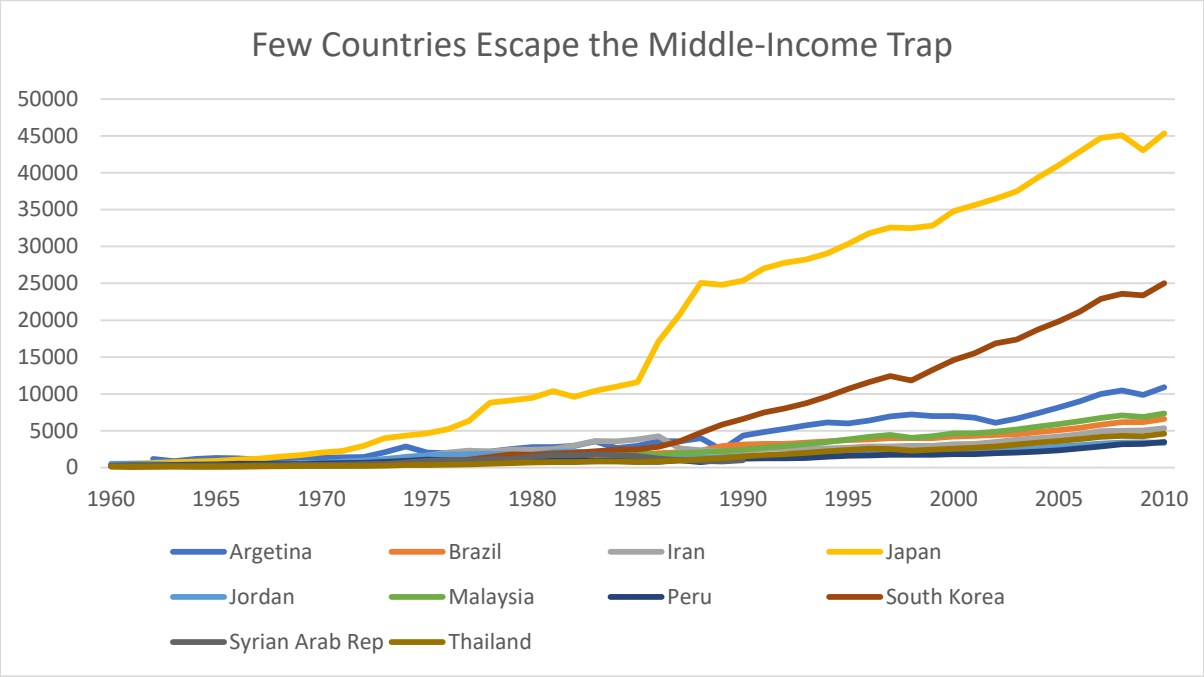
Since it is difficult to cover every other aspect of the economy that impacts GNI, the scope of the study is limited to examining only a few variables. The paper draws certain primary information from the government sources, but adequately depends on secondary sources such as data, based on which, further inferences and interpretations have been made.

Issues & Challenges

Post-World War II witnessed some countries managing to reach middle income status easily while only few experienced high-income status.[13] Middle income countries reached certain level of standard of living, but they were not able to fully breakthrough to the fully developed and fully wealthy countries. Figure 1 below shows the countries that attained middle- and high-income status in post-World War II phase. The graph explains that there has been increase in the GDP per capita of different nations since year 1950 till 2010. It shows that Japan and South Korea, has substantially broken through to fully wealthy nations group.

[13] Middle-income economies" are defined according to World Bank's classifications by income group, as given by http://data.worldbank.org/ about/country-classifications.

Figure 1



Source: World Bank

But many other countries reach up to a certain level, and more or less remain within that level, as their growth rates have slowed down after the initial increase it witnessed hence, these countries could not fully become developed and reach higher income. This has happened because many of them witness growth slowdown and remained in the MIT. These growth slowdowns are due to reduction in productivity whereby 85 per cent of the slowdown in the rate of output growth. This is explained by a slowdown in the rate of total factor productivity growth—much more than by any slowdown in physical capital accumulation (Eichengreen, Park, and Shin 2011). MITs hence are not simply the natural implication of decreasing marginal rate to investment in physical capital as a simple neoclassical growth model would suggest.

Growth slowdown in developing economies can be commonly attributed to the Lewis-type development process. Countries tend to grow fast initially when the world economy is in a boom and they efficiently employ their advantages in terms of capital, labour and technology. This was noticed during the 1990s when China experienced high growth due to shifting the surplus labour from agriculture to manufacturing. Around early 2000s such labour started depleting and labour cost started rising. This particular phenomenon popularly came to be known as Lewis Turning Point (LPT).[14] Once they reach high growth, no doubt their per capita income goes up, but many of them find it difficult to sustain such growth because their initial advantage vanishes, and countries require new sources of growth.

[14] The phenomenon of a shortage of migrant workers in the 2000s become a hot topic and inspires debate among scholars on whether China has reached Lewis turning point. Can be accessed at https://www.rrojasdatabank.info/chinalewis11.pdf.The Lewis Turning Point in China and its Impacts on the World Economy Andong Zhu and Wanhuan Ca

In a paper by Barry Eichengreen, Donghyun Park and Kwanho Shin (2011), the authors have used specific statistical figures and found that, by the time countries get to the general range of $17000 per capita in a year, the growth rate is, on an average, falling from 5.6 per cent to 2.1 per cent. They also found that is especially likely for societies, getting older and for countries, which have earlier generated growth from artificially real low exchange rates.

There is not any good scientific understanding of MIT, but there are number of plausible hypothesis to explain what exactly goes wrong. Some of these factors are explained below.

Rise in wages – As a nation becomes wealthier, the level of wages rises, and the country is no more able to compete as simply being a place with abundance of cheap labour, even if the nation is abundant in labour.

Labour migration running dry- Countries are able to generate a substantial proportion of economic growth by transferring labour resources for quite unproductive countryside to productive cities. This is simply a transfer of human capital, but this transfer cannot go on forever. It's even costly to transfer labour to cities and make them much more productive, than to simply transfer people from countryside to city.

Slowing demographics- There is also a possibility that there is a shift in population from working class to retired class, as people get older. Thus, there is lesser number of energetic and young people entering the labour force.

Moving up the value chain- A nation can somehow shift the potential of growth from one sector to other, but it is very difficult for the nation to become the next innovator to the same product. Since, it remains dependent on other alien suppliers, its inability to move up the value chain can lead to MIT.

Innovation- An economy can get wealthier, but it depends increasingly on innovation, but innovation is much harder than imitating what other already developed nations do, but at lower wage levels. As McKinsey[15] stated in a survey, that the success of innovation can be seen through its impact on productivity, as it is the only sustainable engine of wealth and job creation. As of July, 1 2021 low income economies are defined as those with a GNI per capita less than US$ 1036 by World Bank Atlas method, lower-middle income are between US$ 1,036 - 4,045, upper-middle income are between US$4,046 - 12,535 and higher income are more than US$ 12,535.[16]

As per the World Bank statistics of 2021, there are about 135 countries belonging to middle income nations of which 29 belong to low-income economies. 50 belong to category of lower-middle income economies and 56 are of upper-middle income economies.[17]

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[15] "Innovation in a crisis: Why it is more critical than ever" available at https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/innovation-in-a-crisis-why-it-is-more-critical-than-ever accessed on March 06, 2021.

[16] https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2020-2021, accessed on March 06, 2021

[17] https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups accessed on March 06, 2021

Generally, the problem of getting stuck into middle income comes for the nations which cross GNI per capita of around $4000. But, there have been talks of India facing a MIT, even when the Indian economy is placed in the category of middle-middle income group.[18] Indian economy has been growing at the rate of above 5 per cent per annum since last 5 years; also, it has moved up in global competitiveness factor from rank 71 to rank 55th.

But there are many factors which Indian economy is not giving adequate focus upon, due to which it might face MIT. Some of these factors are discussed in detail below.

Lack of focus on innovation- Around $1.4 trillion were spent globally on R&D, of which India's contribution was only 2.1 per cent compared to over 12.6 per cent by China. Also, no Indian university figures in the list of top 200 universities of the world. Not even one per cent of students pursuing higher studies opt for research-oriented courses, besides, about 75-80 per cent of India's R&D spending comes from public enterprises, while in OECD countries, more than 75 per cent comes from private enterprises.[19] Why there is not much focus on innovation? A variety of factors are responsible for such dismal level of innovation in India.

Going by the different statistics, between 2004 and 2014, Indian gross domestic expenditure on research and development (GERD) to GDP has remained between 0.65 and 0.7 per cent which can be observed from Figure 2. Though this allocation towards research and technology has experienced marginal rise over last two decades, yet this India's contribution is far lower compared to Israel, South Korea, Japan, Germany, USA, France, UK, and Canada.[20] Investments in R&D are one of the key drivers of economic growth. The impact of this is proven on productivity, exports, employment, and capital formation. India's investment in R&D has shown a consistent increasing trend over the years. However, it is a fraction of India's GDP, it has remained constant at around 0.6 to 0.7 per cent of India's GDP during the years 2018 and 2019.[21]

[18] Lee, Jong-Wha, and Kiseok Hong. 2010. Economic Growth in Asia: Determinants and Prospects. Unpublished manuscript. Manila: Asian Development Bank and Ewha Women's University (September).

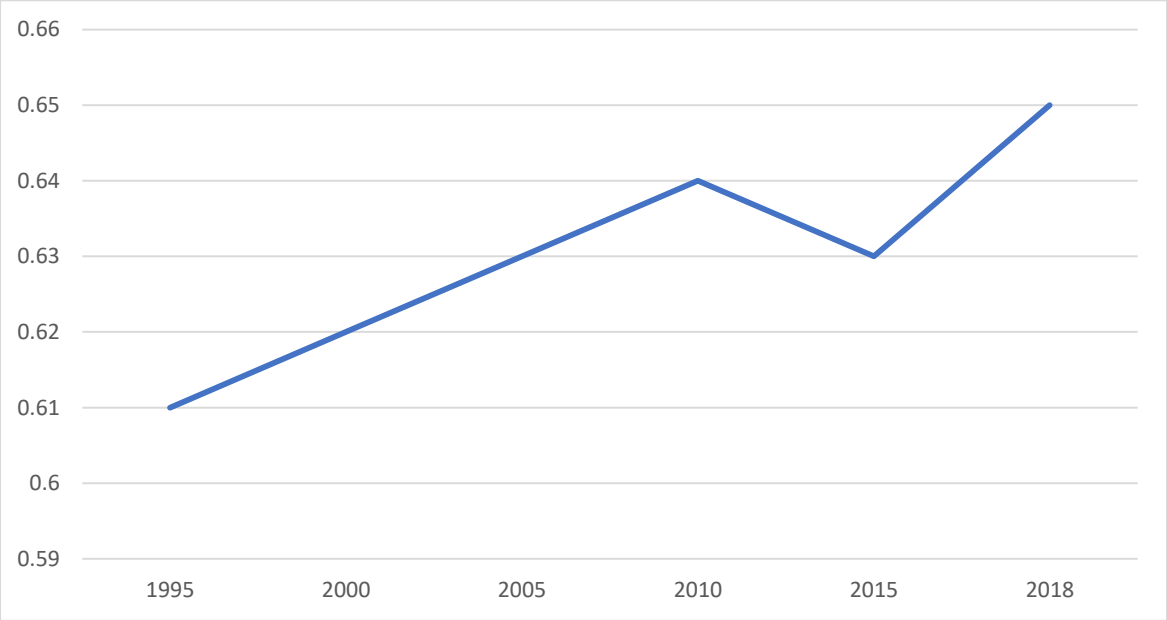
[19] http://www.businesstoday.in/opinion/perspective/india-jumps-in-the-global-competitiveness-index-reasons/story/224285.html (accessed on July28 2020)

[20] India's National Gross Expenditure on Research and Development (GERD) spending is lower than that of BRIC nations. China spends 2.1 per cent, Brazil 1.3 per cent while Russia spends a bit over 1 per cent. Available at https://www.businesstoday.in/current/world/india-gdp-randd-expenditure-in-science-is-less-than-bric-nations/story/390874.html (accessed on July 30 2020)

[21] https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1580049, Government of India (accessed on August 01, 2020)

Figure 2

GDP Expenditure of India in Research & Development (% age)



Source: World Bank

And since researchers as well as scholars get better opportunities abroad, the nation faces brain drain, due to low investments. If compared to China, which has relatively similar demographic features as compared to India, the share of science and technology kept in GDP of China, kept on rising after year 2008, but it remained stagnant, and rather reduced, in case of India. Considering a lager economy like India, allocation is meagre.

Further, socio-political issues of corruption, bureaucratic inefficiency, rising infrastructural deficit inadequate fiscal initiatives for intellectual property (which is a major driving factor for innovation) have limited the scope of innovation. It can be supported by the fact, that India is ranked 29 out of 30 countries (ahead of only Thailand) in the 2015 Global Intellectual Property Centre index.[22][23] India's education system is failing to close the gap between industry and academia. Very few PhD theses in technical institutes are linked to industry and innovation, and the bulk of academics. S. Srinavasa Murthy, professor, IIT Delhi stated.[24]Though these issues are now being taken seriously under various schemes of the New Central government, a marginal sign of improvement is visible.

Incompatibility in rise in productivity and wages-The share of real wages has been rising slowly since 2007. A host of factors might be responsible for such issue. However, an important factor, among them is the development of NREGA. Under the scheme of NREGA**,** the women participation in the labour force has gone up which subsequently has pushed up rural wages but has not helped much in productivity. On the other hand, it could have aided industrial wages to register possibility the higher industrial productivity. But the share of

[22] measures commitment to innovation via IP protection efforts
[23]https://www.pwc.in/assets/pdfs/industries/education/publication/india-higher-edu-sector-(251012).pdf
[24] http://www.ncee.org/wp-content/uploads/2013/10/India-Education-Report.pdf

productivity has been considerably constant owing to its 'sticky' nature compared to the volatility of profits in the post boom era[25].

Low investment ratio- As RBI governor quoted to issues facing the economy and said the problems include people saving more and spending less, low productivity and low investments. On what was holding back the investments is lower global growth prospects and structural confidence related aspects such as business environment. This has led not only to lower short-term interest rates but also lower long-term interest rates. Thus, interest rates are likely to stay low in the coming years as well, reflecting the downward revised growth potential.

Slow manufacturing growth- Manufacturing output is seen declining 0.2 per cent in 2013-2014 compared with 1.1 per cent growth the previous year, dragging down the overall economy. Production of consumer durables such as refrigerators and washing machines declined in the December quarter from the previous three months. Production of machine tools has also fallen, indicating lower capital expenditure.

Table 1

Certain Sectoral Output of Indian Economy

%age growth	December 2012	December 2013	April-December 2012/13	April-December 2013/14
IIP	-0.6	-0.6	0.7	-0.1
Mining	-3.1	0.4	-1.8	-1.8
Manufacturing	-0.8	-1.2	-0.4	-0.6
Electricity	5.2	7.5	4.6	5.6

Source: Ministry of Statistics & Programme Implementation, Government of India, 2016

Poor labour market conditions- The labour market is highly segmented along gender and caste lines. There is a high demand-supply skill gap in India, e.g., the secondary and tertiary education systems are not producing graduates with the skills needed by industry. Also, there are large regional differences in the Indian labour market. Regional unemployment rates, for example, varied from 0.3 per cent in Mizoram to 20 per cent in Lakshadweep. With a ratio of vocational students to 15-24-year-old at 0.3 per cent it is lower than the average for South Asian countries.

Infrastructure and structural weakness- Many Indians lack basic amenities lack access to running water. Indian public services are creaking under the strain of bureaucracy and inefficiency. Over 40 per cent of Indian fruit rots before it reaches the market; this is one example of the supply constraints and inefficiency's facing the Indian economy.

[25] www.undp.org/content/dam/india/docs/human-development/exclusion-and-inclusive-growth.pdf

Despite so much of hindrances, India has been somewhat able to move from category of low-income countries to middle-income countries. It can be supported by the fact that the economy has moved to 55th position in global competitiveness index, 16 positions up from 77th rank.[26] During the slowdown in world economy in year 2008 and 2009, the GNI per capita of Indian economy was still rising, which can be depicted from the Table 2 below.

Table 2

India's GNI Per Capita during 1995-2019

Year	GNI per capita ($)
1995	380
1996	410
1997	420
1998	420
1999	450
2000	450
2001	460
2002	470
2003	530
2004	620
2005	730
2006	810
2007	950
2008	1030
2009	1150
2010	1260
2011	1410
2012	1500
2013	1530
2014	1570
2015	1570

[26]http://reports.weforum.org/global-competitiveness-report-2015-2016/economies/#economy=IND

2016	1680
2017	1830
2018	2010
2019	2130

Source: World Bank

This dramatic success is largely attributable to the domestic consumption model, India follows. Also, financial system was not very actively integrated to world economy. This boosted the growth prospects of India, which hinged on lowering the cost of borrowing for industry, increasing consumer demand lowering home loan rates in India. Ultimately, India made it to middle income category of nation, which also owes to momentum initiated by the election of Narendra Modi, whose pro-business, pro-growth stance has improved the business community's sentiment toward the government.

The quality of India's institutions is judged more favourably (60th, up 10), although business leaders still consider corruption stances and lack of innovation to be the biggest obstacle to do business in the country. As per doingbusiness.org, the nation has improved its ranking from 134 to 130, for ease of doing business, but its pillar of paying taxes has worsened from 156^{th} to 157^{th} rank among 189 economies.

Going by the Table 3, shows, that India's performance in the macroeconomic stability pillar has improved (91st, up 10). Thanks to lower commodity prices, inflation eased to 6 percent in 2014, down from near double-digit levels the previous year. The government budget deficit has gradually dropped since its 2008 peak, although it still amounted to 7 percent of GDP in 2014, one of the world's highest (131st). Infrastructure has improved (81st, up six) but remains a major growth bottleneck—electricity. These improvements indicate the factors owing to which Indian economy managed to enter in the category of middle-income nations.

Table 3

India's Ranking on the Sub-Indices of Global Competitiveness Index

	2014-15	2015-2016
Basic requirements	92	80
Institutions	70	60
Infrastructure	87	81
Macroeconomic environment	101	91
Health & primary education	98	84
Efficiency enhancers	61	58
Higher education & training	93	90

Goods market efficiency	95	91
Labour market efficiency	112	103
Financial market development	51	53
Technological readiness	121	120
Market size	3	3
Innovation & sophisticated factors	52	46
Business sophistication	57	52
Innovation	49	42

Source: The Global Competitiveness Report 2016-2017, World Economic Forum[27]

The fact that the most notable improvements are in the basic drivers of competitiveness but need to work a bit more on efficient usage of available resources, especially the development of the manufacturing sector. Financial markets are a potential source of arranging funds and inviting investors as well. Other areas also deserve attention, including technological readiness: India remains one of the least digitally connected countries in the world (120th, up one). Fewer than one in five Indians access the Internet on a regular basis, and fewer than two in five are estimated to own even a basic cell phone.

Thus, in a crux, it states that the economy needs to focus on some socio-economic elements as well, like education and health, to avoid MIT and move up the value chain. This will in turn enhance the innovation index of the nation.

The human capital factor plays a major role to break through the MIT. There has been emphasis on improvements in human capital factor, through different criteria, namely, specialization, improving quality of education, produce world-class large-scale institutions and focus on innovation. Presence of strong core physical infrastructure and quality of human capital enhances an economy's ability to innovate and move up the value chain. Further, favourable demographics enable the reasonable, flexible and transparent business climate. This all is related to broadly 3 factors, that is, complexity, wages and competitiveness.[28] When an economy is growing, the rise in complexity and competitiveness is greater than wages, but there is a dramatic reversal in the situation at later stages, and this hindrance can be avoided by improved quality of human capital, which helps in moving up the value chain, as innovation is harder than shifts in the sectors.

[27] Latest figure/data available till now

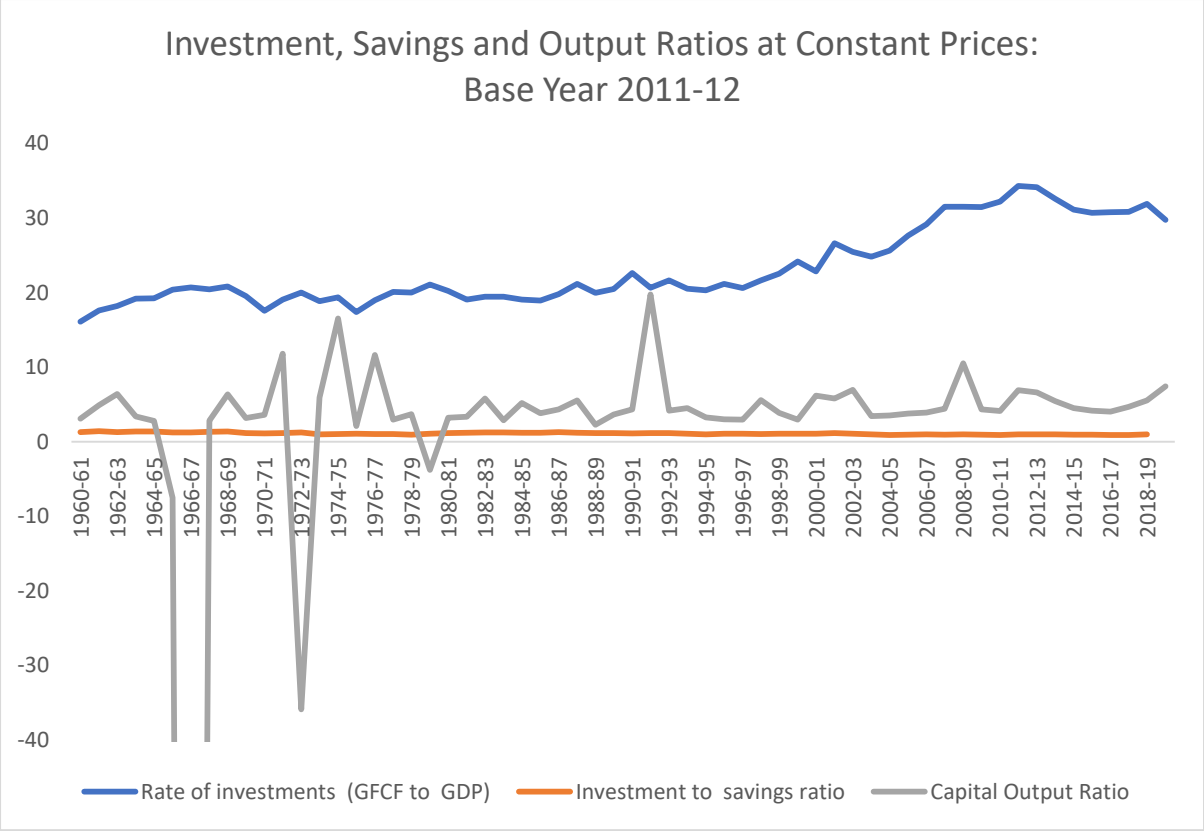
[28] In an interview with Mr. Victor Shvets and Nazrin Hassan, regarding the possible way outs to avoid MIT

These all factors can be utilized only if the demographics are favourable and the human capital is healthy enough to absorb the capacity and are at least provided with resources to do so.

Analysis & Findings

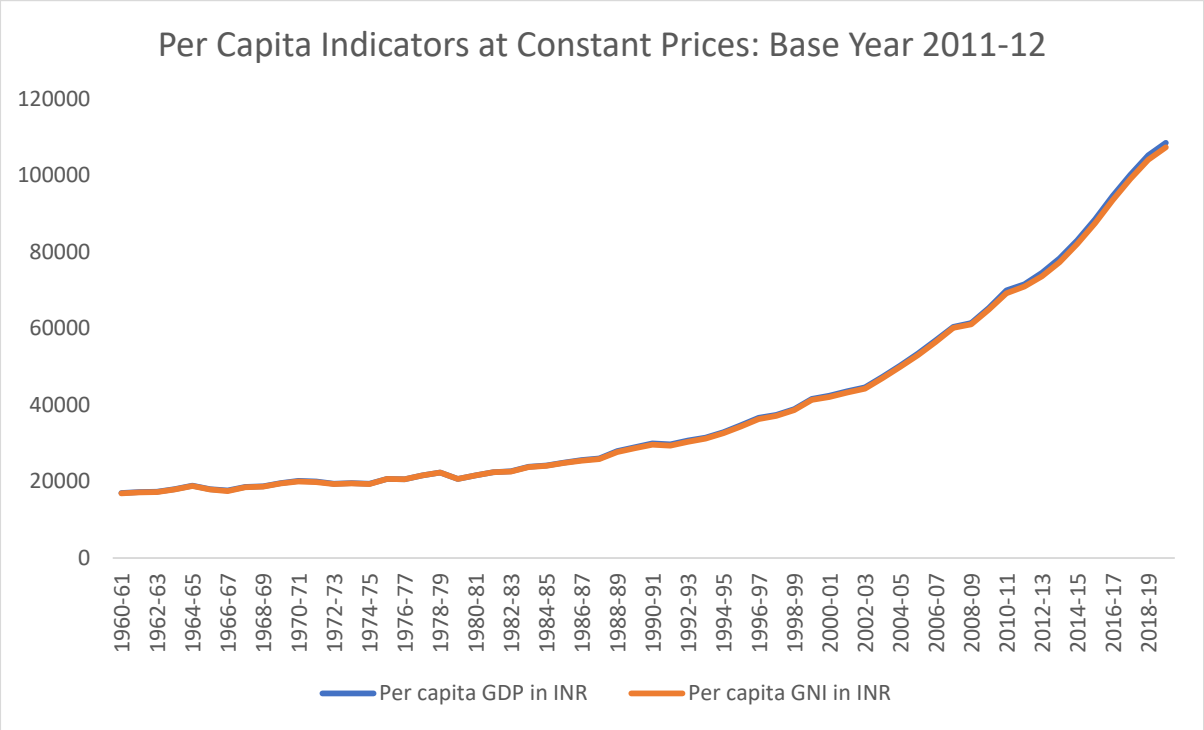
The paper looks at the India's wage rate, rate of investment, investment to GDP ratio and GNI per capita income as major indicators of analysis. Looking at all these data, it found out that the average wage rate is showing constant rise, rate of investment going up, investment to savings ratio is marginally more than 1 from 1960-61 till 2002-03, however from 2003-04 till 2018-19 it has fallen below 1. Capital to output ratio is mostly showing positive growth while the year 1966-67 is experiencing the biggest dip amounting to negative three hundred seventy-four (-374) and negative thirty-five (-35) in 1972-73. Similarly, GNI per capita has shown consistent rise. This can be observed from Figures 3 &4. Figure 5 indicates average wage rates for rural labourers engaged in agricultural and non-agricultural activities, while Figure 6 suggests that wage rates are rising much faster than the productivity or output. Data relating to Figures 3, 4, 5 & 6 are given in Appendix.

Figure 3



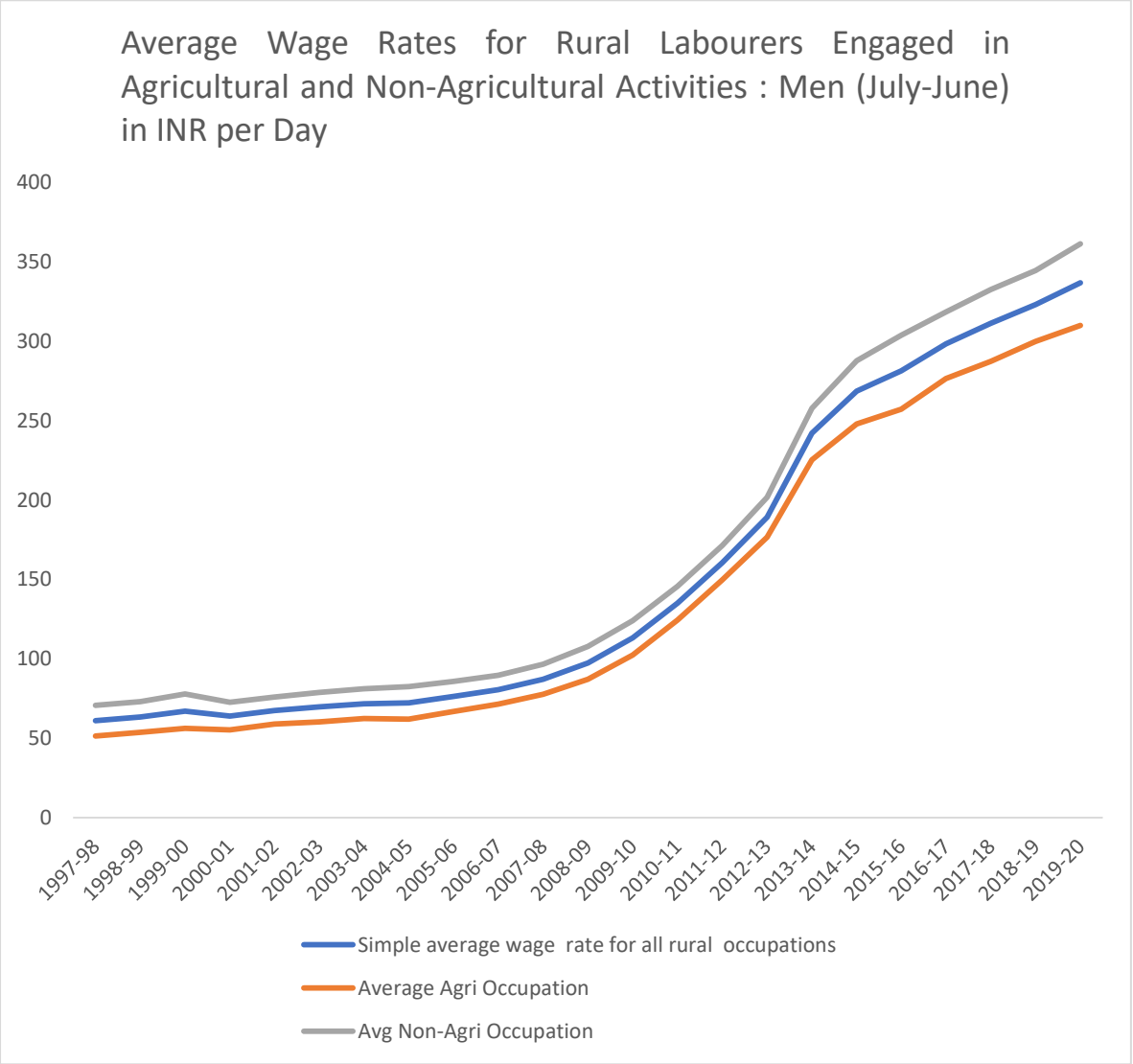
Source: Author's calculations based on Ministry of Finance, Government of India & Centre for Monitoring Indian Economy (CMIE) data

Figure 4



Source: Author's calculations based on Centre for Monitoring Indian Economy (CMIE) data & Reserve Bank of India

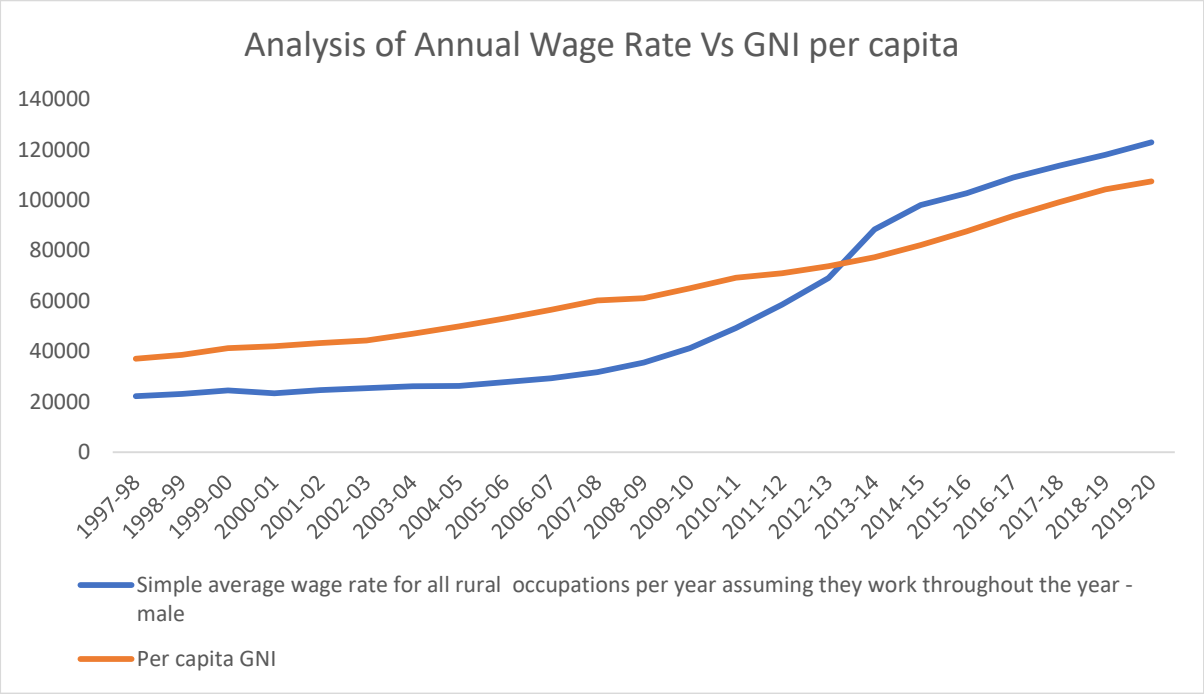
Figure 5



Source: Author's calculations based on Economic Survey, Ministry of Finance, Government of India & Centre for Monitoring Indian Economy (CMIE) data

Deeper analysis observes that India's wage rate on an average per year is rising whereas productivity or gross national income per capita (GNI per capita) is not correspondingly increasing since 2012-13. This suggests that there is a consistent gap between the two emerging from 2012-13 till 2019-20 as can be seen from Figure 6. Post 2013 India's average wage rate has gone up and national income per capita has fallen.

Figure 6



Source: Author's calculations based on CMIE data

Regression Analysis

Table 4

Correlation Matrix among major variables

	PER CAPITA_GNI(PC_GNI)	INVESTMENT _SAVINGS(INV-SAV)	GROSS FIXED CAPITAL FORMATION _GDP(GFCF_GDP)	NON-AGRICULTURAL WAGE(NONAGRI WAGE)
PC_GNI	1.00	-0.63	0.77	0.96
INV_SAV	-0.63	1.00	-0.52	-0.52
GFCF_GDP	0.77	-0.52	1.00	0.62
NONAGRIWAGE	0.96	-0.52	0.62	1.00

From the regression analysis it is observed that the investment savings ratio is negatively related to per capita GNI. This implies that higher investment is not getting reflected in increasing per capita GNI. Such situation may be arising due to low productivity which in turn affecting GNI per capita. It is also possible to argue that India is progressively witnessing higher population growth, hence GNI per capita is being reduced or pulled down. This dimension suggests that there is a high possibility that India can remain in a MIT. From the Figure 3 it can be established that rate of investment is increasing, but the incremental capital output is falling which basically means the productivity is becoming much less than desirable and not in sync with what is expected. This also symbolizes most of the firms and other sectors are not too efficient to generate the output correspondingly expected from the economy. Such expressions find their resonance in Economic Survey 2017-18 when Arvind Subramanian former Economic Adviser to Government of India remarks "To re-ignite growth, raising investment is more important than raising saving." [29] Gross fixed capital stock is positively related to per capita GNI implying high role of capital. Investment savings ratio and GFCF-GDP ratio are negatively related implying lower impact of investment in capital formation or leakage in productivity.

Regression Model:

$LOG(PC\_GNI) = \alpha + \beta 1.\ LOG(GFCF\_GDP) + \beta 2.\ LOG(INV\_SAV) + \beta 3.\ LOG(NONAGRIWAGE) + \varepsilon i$

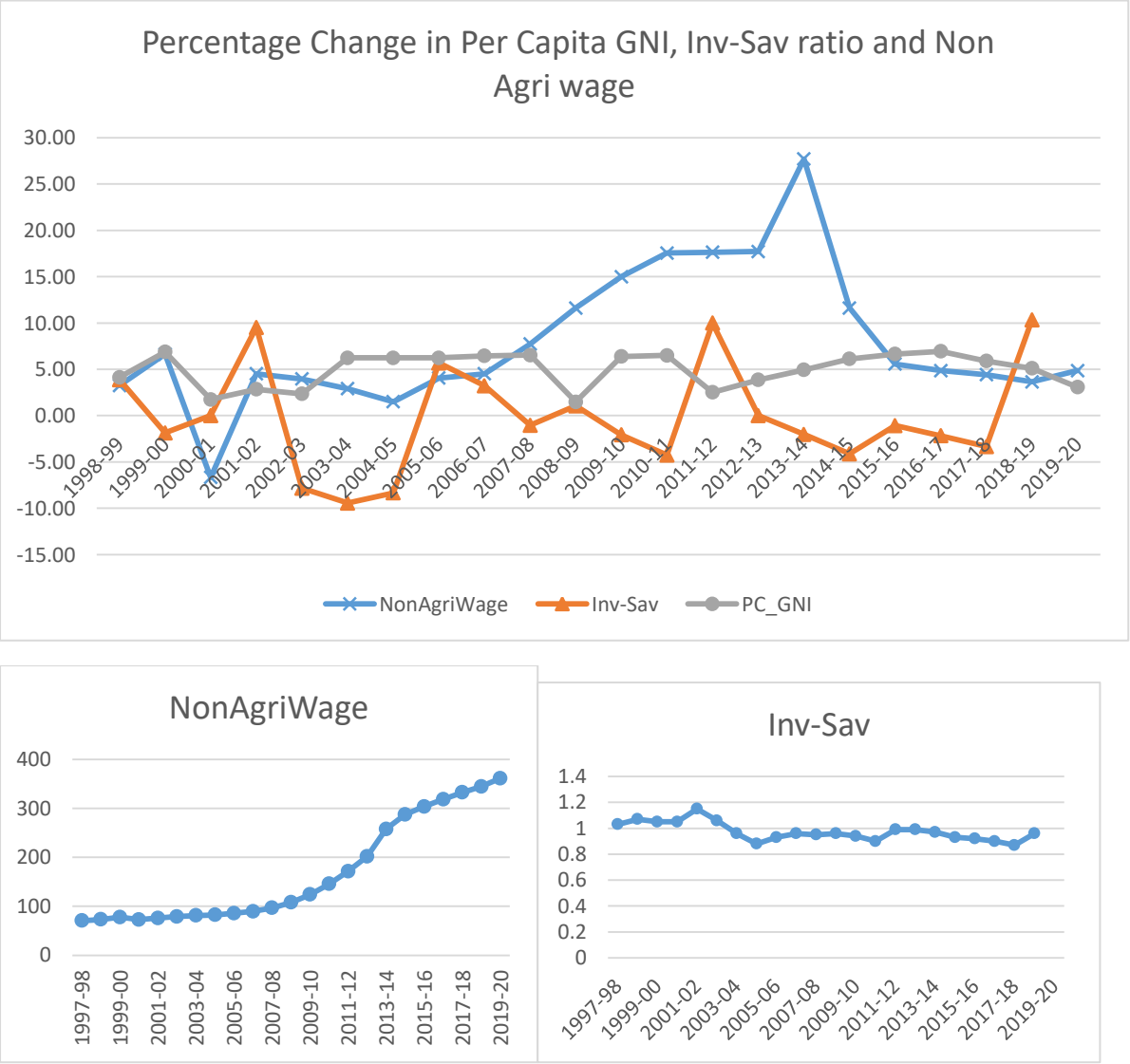
Regression Results: (Based on Author's Calculation)

Dependent Variable	LOG(PC_GNI)	
Independent Variables	Coefficient	T-statistic
Constant (α)	8.2988*	26.208
LOG(GFCF_GDP) (X1)	0.1378	1.318
LOG(INV_SAV) (X2)	-0.2029	-1.384
LOG(NONAGRIWAGE) (X3)	0.4596*	7.693
Adj. R2	0.9915	
N-1997-2018	22	
Note: *, ** and *** indicate significance at 1, 5 & 10% respectively		
Method: ARMA Maximum Likelihood (OPG - BHHH), model is robust with Autoregressive of order 2 (with coefficient -0.7342*), DW-Stat: 2.114		

[29] http://mofapp.nic.in:8080/economicsurvey/pdf/001-031_Chapter_01 Vol.01 2017-18.pdf, accessed on January 02, 2021

Maximum likelihood method has been applied to estimate the above equation and the effect of autocorrelation is eliminated with autoregressive order 2. The results reiterate that impact of investment on GDP is low. Both GFCF and investment are not significant drivers for growth in per capita GNI. However, non-agricultural wage is having an overwhelming impact on per capita income. The results indicate that India's per capita income growth is more driven by wage growth and less engineered by productivity growth or investment fixed capital. In other words, it can be argued that mere investment in capital may not necessarily increase per capita income unless it improves the wages. This again suggests that India will be remaining in a MIT as overall productivity is not surpassing the wage growth. India's wage rate is higher than the many Least Developed Countries (LDCs), but in terms of productivity it is lower than developed economies. Figure 7 supports this analysis.

Figure 7



Source: Author's calculations based on Ministry of Finance, Government of India & CMIE data

Conclusion & Recommendations

The paper would like to suggest that India is currently demonstrating signs of remaining in a middle-income trap as the productivity is not showing relatively higher growth than the wage. Overall wages are rising with low productivity. Besides this, cost of doing business is still relatively high among developing countries. India's current rank of 63 in 2020 in Ease of Doing Business report is still to an extent not favourable to conduct business as in a few segments such as enforcing contract, registering property, paying taxes, India is quite way off the mark.[30]

Thus, keeping in mind the above-mentioned findings of the regression analysis and the Indian scenario at present, it is suggested that some policy measures, which can be undertaken in Indian perspective to escape the scope of MIT and keep the GNI rising are analysed here.

Focus on indigenous innovation-If the nation continues to depend upon any boom or outside world, it may get stuck temporarily in middle-income trap, as economic policies many a times, show diminishing returns. The need at present is to go beyond 'frugal' invention and to focus on undertaking more original research[31]. And, this can be undertaken at a lower cost, by collaborating research centres under universities, and encourage the culture, supporting the education system which shifts from equipping workers with basic skills, to provide them with abilities to create new product. There are many examples for original research which the economy has already undertaken, like e-learning, pharmaceuticals, etc. more emphasis is put on indigenous brands for medicine, like-Ranbaxy, instead of Pfizer.

Encourage risk taking and economic growth among entrepreneurs-India today has 560 million young people under the age of 25 and 225 million between the ages of 10 and 19. So for the next 40 years it should have a youthful working-age population at a time when the broad industrialised world is ageing. This could be a huge demographic dividend, provided India is able to educate its youth, offering vocational training to some and university to others to equip them to take advantage of what the 21st-century global economy offers. "If we get it right, India can become the workhorse of the world.", as mentioned by Shashi Tharoor in a business weekly. Though, various initiatives have been undertaken by the government, but they are still inadequately proportionate to the population. The need is not to increase the jobs, but to create it, and only an entrepreneur can do so. The era of start-ups has already started in India, all owes to this demographic dividend, as the youth of generation Y has considerable risk-taking capacity.

Tax breaks-India is one of the top nations, offering generous R & D related tax incentives.[32] However, it still lacks innovation because it lags in other areas, such as collaborative R & D tax credits, made to support universities, national labs and research consortia and encourage

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[30] https://www.doingbusiness.org/en/data/exploreeconomies/india#, accessed on January 02, 2021

[31] Shashi Tharoor at www.businesstoday.in/magazine/focus/manufacturing-sector-is-dragging-down-india-economic-growth/story/203616.html (accessed on July 21 2020)

[32] www.insightsonindia.com/2015/10/12/7-which-are-the-contentious-tax-issues-in-india-that-industry-and-citizens-expect-government-to-address-discuss (accessed on July 22, 2020)

them to commercialize innovation, rather than just research. Further, tax breaks should be offered in areas of national importance and integrity, like, defence, military space, aerospace, nuclear energy. The only reason, the economy is not able to give much of tax breaks, is because the balances are already running in deficits and taxes are a major source of income to the government. Thus, investors are not interested to invest substantially in the nation, stating that it lacks transparency and administrative capacity.one can refer it form the fact that India still ranks 142 among 189 nations, in ease of doing business. The tax issues of Indian government with Cairn Energy, Vodafone and Shell still remain unresolved. Thus, the need of hour is to resolve the tax issues internally and/or through international arbitration.

Increased level of investments- India has established its strengths in Information Technology (IT), and Business Process Outsourcing sectors for a while now. MNCs are investing in India and setting up R&D centres in the country, thus hoping to tap into the vast workforce of India, which is committed to making their own lives better and contributing to a better tomorrow, like GE, IBM, and Philips. However, other sectors also need to catch up as engineering and research and development has been on growth trajectory in the economy. Investment is required from private sector (which is insignificant at present) , to embody new technology, in different verticals to help India move up the value chain, that is, automobiles, consumer electronics, pharmaceuticals, and biotechnology specifically.

Create incentive for pro-poor early-stage technology development- The time is to promote inclusive innovation in India, to recreate formal efforts to better meet the needs of economically weaker sections. It can be done by creating incentives for pro-poor early-stage development. The main areas of focus here would be agricultural research and development, public R & D and university enabled initiative, financial commercialization, pro-poor intellectual property rights, and increased accountability. Though Indian agricultural sector faces many challenges, but it has huge untapped potential for augmenting value chains through crop diversification and forward and backward integrations. It can change the pattern of food demand in the nation and tap international markets, thus generating additional exports and employment opportunities.

A very small proportion of India's public R&D infrastructure is agriculture and health. More efforts are required apart from NREGA scheme and efforts by Council of Scientific and Industrial Research (CSIR), to support joint venture of public R & D infrastructure with private sector, so as to increase productivity, which is a key mechanism for poverty reduction. Agriculture is a major employment sector in the nation even today; however, the poor do not suffer from an absence of work, but rather from low productivity and the resultant low remuneration.

Financial commercialization can be attained using bottom of the pyramid effect, as argued by C.K Prahlad. The needs of poor and underserved can be met, while creating a viable business opportunity, as the companies can use their technological and marketing capabilities to create and deliver products. For example- mobile telephones, micro lending, hypermarkets and cold storage supply chain for farmers, low-cost internet connectivity (in lines with digital India initiative) and other grass root innovation networks.

Poor citizens living in traditional styles desire to protect the secret knowledge. Though this pro-poor IPR framework would require revolutionary thinking and bold experimentation in the Indian culture, both legally and administratively, but can be adopted using the goal of

compensation, wherein the person sharing the knowledge, and not the one, who possesses it, will be rewarded. This will also reinforce India's image taking bold and novel ideas.

Innovation in selected items- India requires innovation in selected items, and which can be generated overtime. At present, the focus, should be on creation of more and more special economic zones (SEZs), supported by paperless trade. That becomes easier for an MNC to do business in a nation more likely. It will help them to invest in the host nation. 'Make in India' venture pursued by Indian government aims to achieve this objective only. South Korea seemed to have progressed well on this front.

Apart from all the measures, one major domain where the nation needs to focus upon id improvements in logistics and connectivity, which is somehow the nerve centre of all the above-mentioned measures. Also, the measures suggested are in lines with the suitability of the present scenario, as the nation has prudent fiscal and well- entrenched monetary and regulatory policies, under the leadership of great politicians and economists. The nation is making judicious efforts for global and regional integration apace. And adding to its advantage, urbanization is increasing rapidly in the economy. A report by World Bank estimates that between 2010 and 2050, urban India's population will increase by about 497 million, going by present growth trends, and the above-mentioned measures can be a way out, to accommodate this increased proportion of population, in the growth process.

Lastly, despite, variety of issues, India has made it to the category of middle-income nations, but symptoms of getting stuck in the middle-income trap are becoming visible at its early stages. Taking timely initiatives can help India escape the middle-income trap and break through to the category of high-income nations, in the coming future, depending on the favourability and extent of measures undertaken to do so.

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