

**SUSTAINED DOUBLE-DIGIT
GROWTH FOR INDIA'S ECONOMY:
*ECONOMIST'S VS. GENERALIST'S VIEW***

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SUSTAINED DOUBLE-DI

Nation's Goal

The clamor for double-digit growth for India's economy is not new. In the past, whenever India's gross domestic product (GDP) started growing above 7-8 percent; one would hear the sermon that for India to become a regional or world power, it should achieve a sustained double-digit growth of GDP for almost a decade.

In June 2018, while laying the foundation stone of the Vanijya Bhawan, which will house the commerce department, Prime Minister Narendra Modi had said, *"the need of the hour is that we should work towards achieving the target of double-digit growth from 7-8 percent."*¹ Having commenced his second innings with a greater mandate, Prime Minister Modi declared that his government's budget for 2019-20 laid down a road map for nearly doubling the size of the Indian economy to USD 5 trillion in five years by raising per capita income, boosting consumption and increasing productivity.²

If India's current USD 2.7 trillion economy will have to nearly double in five years, it means that from the present GDP growth trend of 6-7 percent, the economy will have to grow at an annual average of 10-11 percent over 2019-24.³

Mr. Vikram Kirloskar, President, Confederation of Indian Industries (CII), has estimated that India would require a total investment of USD 5.74 trillion (around Rs 397 lakh crore) for the next five years to target GDP growing up to 10 percent by 2023-24. According to him, of this, the total investment required for infrastructure sector is estimated at USD

1.18 trillion (around Rs 81.72 lakh crore) for the next five years, while for non-infrastructure including agriculture and industry to be USD 4.56 trillion (around Rs 315 lakh crore).⁴

Is the Indian Economy Heading for a Slowdown: A Reality or Media Myth?

According to the Ministry of Finance, Government of India, the average growth of the Indian Economy during 2014-15 to 2017-18 was 7.3 percent, fastest among the major economies in the world. Indian economy was projected to be the fastest growing major economy in 2018-19 and 2019-20 (International Monetary Fund October 2018 data base) and this was borne by GDP growth of 7.6 percent in the first half of 2018-19.⁵

In June 2018, morale of the government about Indian economy was upbeat when Shri Piyush Goyal, the then Union Minister for Finance said, “We can actually see a double-digit growth by the 4th quarter of this year, it is not impossible, there is a demand uptake in the economy, there is a mood in the nation and an aspirational billion is a fantastic market place.”⁶ Continuing further, the World Bank Report released on 08 January 2019 had forecast that India will continue to remain the fastest growing major economy in the world in 2018-19. In its report titled – ‘Global Economic Prospects: Darkening Skies’, it states that India’s GDP will grow at 7.3 percent in 2018-19 and this would further climb up to 7.5 percent in next two financial years. On the Narendra Modi government’s decision to implement the Goods and Services Tax (GST) the report said, “*In India the recent introduction of a GST and steps toward demonetization are expected to encourage a shift from the informal to the formal sector*”. The World Bank report has said that India’s economy declined in 2017 due to demonetization and the implementation of the GST. In 2017, China grew at 6.9 percent while India’s growth was 6.7 percent.⁷

The economic outlook report released by the Organization for Economic Cooperation and Development (OECD) in May 2019 showed that India not only continued to be the world’s fastest growing major

economy but is also steadily widening its lead over China. The report states, "Accommodative monetary policy and additional fiscal support will boost economic growth, despite subdued demand from partner countries."⁸

Once Narendra Modi government's budget for Financial Year 2019-20 was presented, laying down a road map to double the size of Indian economy to USD 5 trillion in five years, there appeared a sudden twist in the economic narrative of India given by the media. Indian media, which was singing paeans for Indian economy's growing march, has started a narrative that the Indian economy is caught in a slowdown is beyond doubt. To add weightage to their theory, India's GDP figures for the quarter ending June 2019, released by the Central Statistics Office (CSO) on 30 August 2019, are being used as a weapon to browbeat the government. One national newspaper highlights "Economic growth falls to lowest in over 6 years" and states, "Gross domestic product (GDP) growth decelerated to the slowest pace in 25 quarters in the three months ended June 30 as a downturn in household consumption took its toll on key sectors, deepening concern about the anemic state of the economy."⁹

The common man or even most of the educated lot does not even care to know what all is composed of GDP? How it is calculated or what is even the weightage or value of its various components? It is somewhat easy when you evaluate the strength of a country's economy through its annual growth rate. And here the comparison between one quarter with previous quarter, or with same quarter in the previous year and going right down to 25 quarters is being done; whatever suits their narrative. It appears as if media is evaluating Indian economy akin to a limited over cricket match based on Duckworth-Lewis-Stern (DLS) method. GDP measures economic activity: In general, the value of final goods and services a country produces in a year. It provides a good picture of the size of the income pie. But focusing on headline GDP growth each quarter leads us to ignore important factors not captured by income statistics.¹⁰

Europe's largest economy, Germany's annual growth rate came down to 0.4 percent due to decline in exports. In fact in the current financial year, Germany's GDP fell from 0.4 percent in the first quarter to -0.1 percent in the second quarter but the nation is affirmative that Germany was not in recession and would avoid one by taking right measures in the next quarter. The economies of France, Italy and Spain are also slowing down.¹¹ Britain's GDP would expand 1.2 percent this year, down from previous forecast of 1.3 percent, and by 0.8 percent in 2020, down from an expectation of 1 percent growth.¹² The weakness in manufacturing output is emerging as a global phenomenon due to trade tensions and now manufacturing across vast parts of Europe and Asia remain deeply mired in a crisis.¹³ It is amply evident that these sensational narratives are being created in the media by vested interests to put the government on the defensive that too at a time when it is heavily engaged in countering Pakistani propaganda against revocation of Article 370, which is completely an internal matter.

To deal with the subject in a comprehensive manner and draw useful lessons from the countries, which have achieved tremendous economic growth in the past, it is essential to peep in to the history. Further, considering the present drop in the country's economic growth, steps have to be taken to arrest the slide first and then take proactive measures to achieve double-digit growth. The subject is being analyzed under the following heads:

- Historical Retrospect of Developments in the World Economy.
- Resurgence of Chinese Economy: A Case Study.
- India's Route to USD 5 Trillion GDP by 2024: Through Double-Digit Growth.

Historical Retrospect of Developments in the World Economy

World leading British economist Angus Maddison had carried out a detailed analytic survey of developments in the world economy over

two millennia and explored the reasons for the great divergence in the momentum of economic advance in different regions.

According to his study, in the first millennium (1 – 1000 AD), combined GDP of India and China constituted more than 50 percent share of the world GDP with India leading (1 AD: India – 32.9 percent, China – 26.1 percent and 1000 AD: India – 28.9 percent, China – 22.7 percent). This dominance of world economy by both the countries continued right up to 1820 AD. In fact, in 1700 AD, India with a population of 165 million people was the world's largest economy (annual GDP of \$90.8 billion, at 1990 "international" dollar, forming 24.4 percent share of world GDP), whereas China with 138 million people was the world's second largest economy (annual GDP of \$82.8 billion, constituting 22.3 percent share of world GDP) after India.¹⁴

Indian cottons and spices and Chinese silk, porcelain and tea played a large part in world trade in the early modern period. Until the Industrial revolution, India was a low-cost producer of almost all consumer goods, which kept European goods out of Asian markets. It is estimated that British and Dutch purchases of Indian textiles alone accounted for about 11 percent of textile employment in Bengal in the period 1678 -1718. After 1757, when the East India Company took over the governance of Bengal, the British relationship with India became exploitative, as exports to Britain and opium exports to China were financed out of tax revenue from Bengal.¹⁵ Further, a large part of Indian industry was destroyed as a consequence of British rule followed by massive imports of cheap textiles from England after Napoleonic wars.¹⁶

After 1820, the world economic development became much more dynamic. Real per-capita income of the West increased nearly threefold between 1000 and 1820 but from 1820 to 2006, it increased 21 fold.¹⁷ It was because of industrial revolution and enhanced means of transportation resulting in manifold increase in world trade. West overtook East in terms of world GDP share.

China suffered from internal conflict and collusive foreign intrusions on its territory and sovereignty from 1840 to 1949. The economic results were disastrous. GDP fell from a third to a twentieth of the world total and per capita income fell in a period when it rose three-fold in Japan, four-fold in Europe and nine-fold in the United States.¹⁸

From 1978, China reversed Maoist policies and pursued pragmatic reforms, which were successful in boosting growth much faster than in all other parts of the world economy. In fact, when China's paramount leader Deng Xiaoping put China on the path of modernization in 1978; its economy was smaller than India's. Economically and institutionally, China was a very weak state. But a delayed decision by more than a decade by Indian leadership to liberalize its economy has left it far behind China – China's economy is now 4.7 times larger than India's and China is surging ahead at an astonishing speed to overtake the United States of America. China had achieved a double-digit (nearly 10 percent a year) GDP growth preceding the 2008 financial crisis – the fastest sustained expansion by a major economy in history – and more than 850 million people have lifted themselves out of poverty.¹⁹

Thus it is worth to study how China has achieved this tremendous feat in such a short time.

Resurgence of Chinese Economy: A Case Study

The transformation of China's economy could be made possible due to major initiatives or reforms in the following fields: Agriculture; Manufacturing and foreign trade; and accelerated absorption of foreign technology through large-scale foreign direct investment (FDI).

Agriculture. During the Maoist phase, which commenced with the creation of the People's Republic in 1949 and lasted until 1978, production units were too large. This was particularly evident in agriculture. The 130 million family farms of 1957 were transformed in to 26000 people's communes in 1958 with an average size of 6700 workers. This was a disastrous measure. Though, farm management was reverted to 6 million production teams, with an average size of 30 workers within

three years but it could not rectify the inefficiency inherent in the commune system.²⁰In 1978, the leadership acknowledged the failure of the communes and divided the land amongst individual families again. In 1981, Deng Xiaoping formally launched the Household Responsibility System (HRS).²¹ Peasants regained control and management of their land. The average production unit became the farm household employing 1.4 persons on less than half a hectare. Farmers could get better prices for their produce and greater access to markets. The effect was immediate. Agricultural production began to rise, and many farmers were soon not only feeding their families well but also earning money by selling produce in the 'free markets'. With marked improvements in their lives, farmers were able to buy things for the first time, stimulating a slight consumer boom in the countryside, raising rural living standards.²² Further, there has been an official encouragement for new crops, multi-cropping, higher yields and diffusion of Best Practice Technology.²³

Deng Xiaoping allowed small factories called Township and Village Enterprises (TVEs) to be started up by farmers using their savings. TVEs began to mushroom in the 1980s; some started by group of farmers and some as private investments by local governments. Most of these were tiny companies employing fewer than half a dozen people and performing functions like food processing or making spare parts for farm equipment, but some have flourished and developed into major industrial corporations—particularly in the South in Guangdong. There are now an astonishing 120 million TVEs, and they have played a key part in China's economic boom.²⁴Some are now selling produce all round the world.

Manufacturing Sector/ Industry. Manufacturing sector or Industry, which is a key component of China's future economic progress, contributed 46.8 percent of GDP in 2010. From virtually an industrial backwater in 1978, China is now the world's biggest producer of cement, steel, aluminum, coke, ships, chemical fertilizers and textiles and has world's largest automobile market. The number of industrial firms rose from 377,300 in 1980 to nearly 8 million in 1996.²⁵

A major change began in the late 1990s as the government shifted emphasis from light industrial development to heavy industry. Take the example of steel – Chinese steel output was just 37.1 million metric tons in 1980; while it quadrupled to 128.5 million metric tons in 20 years i.e., 2000 but in next six years in 2006, it reached 418.8-million metric tons, one third of global production.²⁶In 2018, China produced an astonishing 928.3 million metric tons of crude steel (almost 50 percent of global production) as against 106.5 million metric tons by India, 104.3 million metric tons by Japan and 86.7 million metric tons by the United States.²⁷ It means that China is capable of moving world markets for commodities like iron ore.

How did this happen? Mao wanted China to become steel super power, with ancient city of Handan as a capital of steel but that did not happen during his life time. Handan had two advantages: rich veins of coal and iron ore and easy access to a major North-South railway line. Hangang, as the local steel mill in Handan was called, was a government favorite. Hangang was created by an act of Mao and it survived for decades on state subsidies, providing benefits for its 30,000 workers but made low-quality ferrous metals that earned poor returns. In the 1990s, Hangang came under pressure to turn a profit. Its managers decided to start making sheet metal, for home appliances and cars, as well as their usual output of construction material, which required a major upgrade. Backed by state bank loans and a listing on the Shanghai stock market, Hangang embarked on an overhaul. But its ambitions far exceeded its budget. The company needed a cheap and radical solution to transform the mill.

The answer came from Europe and in particular Germany as their steel mills were slated for closure and probably heading for the scrap. Chinese bought dozens of Germany's relatively sophisticated blast furnaces for a small fraction of what new ones would have cost. Starting with Dortmund in 1998, Chinese workers arrived in hundreds and labeled every part of the seven-story furnace, then disassembled it, packed it in thousands of wooden crates and shipped to China. Chinese

then proceeded to buy second-hand blast furnaces from France and Luxembourg. Following in to the footsteps of Hangang, other Chinese companies also flocked to Europe to buy these assets. Working 24 hours a day, 77 large steel mills like Hangang and hundreds of small rivals have not only made China a world leader in steel production but have been spewing particulates in to the air, thereby adding to the world pollution at a much faster rate.²⁸

Promotion of Exports. Foreign trade was a state monopoly and was heavily concentrated on imports of capital goods and technology. During 1960s-1970s, China was very much isolated. It had no trade at all with the United States and foreign credits were restricted to short or medium term deals with West European countries and Japan to install plants for chemical products, fertilizers and plastics. When the new political leadership emerged in 1978, it decided to abandon the previous policies of autarkic self-reliance and open the economy to the benefits, which several other Asian countries had enjoyed from an expanding world economy. Foreign trade decisions were decentralized, making trade more subject to market forces. Shrewd handling of Yuan versus US dollar between 1980 and 2005 had made Chinese goods very competitive and was a major reason for the huge increase in exports.²⁹ In order to prevent the Yuan from appreciating, the Chinese Central bank bought large amounts of US government securities and eventually built up foreign exchange reserves, which now stands at USD 3.1 trillion.³⁰

Another step was the creation of Special Enterprise Zones (SEZ) as free trade areas, where imported inputs and exports were duty free; where wages were very low by international standards and there were substantial tax holidays for new enterprises. Four were created in 1980: Shenzhen (near Hong Kong), Zhuhai (near Macao), Shantou in Kwangtung and Xiamen in Fukien province, opposite Taiwan. Shenzhen being the biggest (328 sq km) became part of the greater Hong Kong economy and the bulk of Hong Kong industry was relocated in this low wage area. Hong Kong's shipping agencies, financial facilities and worldwide contacts ensured booming exports for the new factories

located in the zone. In 1984, fourteen coastal cities were opened to greater foreign economic activity. The Yangtze delta towns and Shanghai were also involved in the process and the island of Hainan became a fifth SEZ in 1988.³¹

Chinese export volume rose 28 fold from 1978 to 2003. In 1978, exports (in current Yuan) were equal to 5.2 percent of GDP and by 2003 this had risen to 26.6 percent. In 2003 China's exports were 8 percent of the world total, a significant rise from the 1978 level when their share was 0.8 percent.³²

Foreign Direct Investment (FDI). In 1978, China had no foreign debt and virtually no FDI. The annual inflow of FDI rose from USD 3.5 billion in 1990 to USD 60 billion in 2005; the total inflow from 1979 to 2005 was more than USD 620 billion. Part of these inflows came from overseas Chinese investors in various parts of the world. Some came from mainland; Chinese investors who recycled their capital via Hong Kong in order to benefit from the tax privileges in the SEZs. The SEZs have been an important vehicle for the development of a capitalist class in China, as well as a successful instrument for transfer of technology.³³

Absorption of Foreign Technology. Since Deng Xiaoping's reforms, knowledge and technology have flowed in to China from various sources. Science & Technology cooperation through commercial channels began in the early 1980s with foreign firms transferring technology to China through equipment sales and licensing agreements. By the 1990s, China began extracting as much technology as possible from foreign investors under its so-called "*market for technology*" strategy. Initially, the Chinese were often satisfied merely to deploy technology and make profit from it. This was in marked contrast to the practice followed by Japan and Korea where for every yen or won spent on procuring technology, several times that amount was spent on assimilating it. China has seemingly now changed its modus operandi; with the state promoting a far more coordinated and organized technology assimilation program.³⁴

For the chance to compete in China's huge market, multinationals at times have been willing to part with their intellectual property through joint ventures. Induction of high-speed rail in China is an interesting example. In 2005, the China National Railroad Corporation (CNR) invited the German firm Siemens to join them on a bid to supply passenger trains for the Beijing-Tianjin high speed railway. The consortium was awarded an initial contract to supply 60 passenger trains worth \$ 919 million. The first three trains were built in Siemens' German plant, and the remaining 57 were built in China at a CNR plant in Tangshan, after Siemens trained 1,000 CNR technicians to manufacture the advanced equipment. By partnering with CNR, Siemens hoped to gain business in a country which planned to spend \$ 730 billion on rail roads and \$150 billion on subway systems in the next five years. The Beijing-Tianjin high speed railway opened to great fanfare before the 2008 Olympics. By March 2009, Siemens had announced a follow-on project to supply 100 trains for a Beijing-Shanghai high speed railway. To their utter dismay, the Ministry of Railways denied existence of any such deal, saying China would use its own "*indigenous technology*". Instead CNR was awarded a \$ 5.7 billion contract for the trains, with Siemens contracted to supply certain vital components for \$ 1 billion. The Siemens' decision to transfer technology to CNR resulted in the loss of its technological advantage to China, which would soon become a global competitor.³⁵ Subsequently, in the United States; California had accepted Chinese bids on a planned high-speed rail project.³⁶

Semiconductor Design and Production: Where China could not succeed.

China had long been aware of the need to develop a semiconductor industry of its own. Just eight years after the invention of integrated circuit (IC) [invented in 1958 by a Texas Instruments engineer named Jack Kilby] and three years after the first ICs went to market in the US, China managed to create its own IC in 1965, placing the country ahead of would-be competitors like Taiwan and South Korea, neither of which had started developing a semiconductor industry at the time. However, more than 50 years later, China now trails the US, South Korea and

Taiwan in semiconductor technology.³⁷ According to a major State Council planning document, China had aimed to become a leading chip design and manufacturing center by 2010. In the early 2000s, investors were convinced that China's IC industry was poised to have a global impact but that did not happen. Instead of exporting chips in large quantities, the PRC depended on imported chips for at least 80 percent of the electronics it produced for both domestic use and export. Probably China has spent more money on microchip imports than it does on importing oil.³⁸ Last year, China imported US\$ 312 billion worth of chips to meet domestic demand, exceeding the amount it spent on oil.³⁹ Chinese semiconductor firms could not compete with the likes of Intel, Qualcomm and Samsung in the design of computer microchips. China's companies were generally positioned on the low end of the global value chain, using older generation foreign technology, concentrating on peripheral products and imitating rather than innovating.⁴⁰ Chinese entities accounted for less than 2 percent of global semiconductor patent applications.⁴¹

Semiconductor industry or chip-making is a fast-moving arena because innovations in this technology are continuous and highly cumulative. It is essential for firms to innovate quickly, accumulate intellectual property rights and use profits to reinvest in R&D to fund the next round of advances. Those falling behind, see their products lose value and then disappear entirely from the market. China's semiconductor firms have so far not been able to innovate at the speed necessary to compete with the best in the world. To illustrate this an example is the 909 Project, where Shanghai government invested 10 billion RMB to establish 'Huahong', which is now one of China's most advanced chip manufacturers. 'Huahong' was tasked to manufacture semiconductors using 8-inch wafers and it enlisted the support of Japan's NEC to manage production.⁴² It is known that by the time project took off, most advanced companies were already using 11.8-inch (300mm) wafers in semiconductor manufacturing. In fact, there is a clear plan to move towards 450 mm (18 inch) wafer size.⁴³ Thus China

has not able to keep pace with global innovation, as in semiconductors, cutting-edge technology becomes obsolete every two years. Shanghai-based Semiconductor Manufacturing International Corporation (SMIC), founded in 2000, is considered one of the world's top five semiconductor foundries in the world. However, it is three generations – or at least six years – behind its rivals.⁴⁴

China relies heavily on the US for semiconductors and with the trade blacklisting of Huawei Technologies and an earlier ban on ZTE, China's vulnerability in respect of semiconductors is thoroughly exposed. Therefore Beijing has stepped up calls for self-sufficiency in core technologies like semiconductors, aiming to produce 40 percent of the semiconductors it uses by 2020, and 70 percent by 2025.⁴⁵

India's Route to USD 5 Trillion GDP by 2024: Through Double-Digit Growth

India's GDP rate of growth had climbed to 8.2 percent two years ago. The Reserve Bank of India, in beginning October, has lowered India's GDP growth estimate for the year to 6.1 percent from the earlier figure of 6.9 percent. The World Bank has slashed its economic growth forecast for India to 6 percent for the current fiscal from its April projection of 7.5 percent. Subsequently, on 15 October, the International Monetary Fund (IMF) has slashed its growth projection for India to 6.1 percent for the current fiscal from its July forecast of 7 percent. However, *India still retains its rank as the world's fastest growing major economy*, tying with China as the latter's economy is also expected to grow at 6.1 percent in 2019, according to the IMF. Moving further, India's economy will likely grow at 7 percent but China's economy is expected to grow at 5.8 percent in 2020. It may be remembered that India's is not an isolated case, rather global economy is in a synchronized slowdown and the IMF has downgraded growth of world economy for 2019 to 3 percent from its earlier 3.2 percent.⁴⁶ Therefore, first, we have to trace the nature of slow down or the causes leading to it so that we can stem the tide before we start planning for a big leap towards double-digit growth.

Causes for the Current Slowdown in Economic Growth. It is a common knowledge from elementary macroeconomics that GDP growth can be driven by four factors: investment; private or domestic consumption; government spending on social and physical infrastructure; and net exports.

Most of the analysts attribute two major factors for the slowdown in GDP growth: One, lack of funds available for investment; and two, sharp fall in exports. How this has occurred?

Before Narendra Modi's government took over in 2014, Indian economy suffered two successive shocks: the first was the global financial crisis of 2008, which adversely affected exports demand, followed by the "Policy paralysis" of the United Progressive Alliance (UPA) government, which led to several big projects being stalled. These two developments played havoc with the credit cycle as borrowers were unable to pay the huge loans they took in anticipation of the boom continuing, and banks were saddled with huge Non Performing Assets (NPAs).⁴⁷ Another major root cause of bank's NPAs is reportedly reckless and sometimes fraudulent lending by banks at the behest of political leaders, a decade ago.⁴⁸ This has resulted to a situation where banks are short of funds to lend and entrepreneurs are not having the capacity to invest more since there are already pending loans in their accounts. This is also referred as the ***Cyclical Factor***.

Another cause is stated to be the declining exports. Exports as a percentage of GDP were on the rise in India until the global financial crisis hit in 2008. There was a brief recovery after the crisis but after having attained a peak of 17 percent in 2013-14, exports accounted for just 12.1 percent of India's GDP in 2018-19. Most of the global economy has been facing problems for the past year and it has further been hit by trade wars that do not bode well for future export growth. This is referred as the ***Structural Factor***.⁴⁹

Thus, two of the drivers of India's GDP growth have been weakened significantly. The World Bank in its analysis observed that the

remarkable weakness of Indian economic activity during the first half of 2019 is largely driven by external and cyclical factors. The report said, “However, during this downturn several structural problems have come to the surface. One of these problems is related to vulnerabilities in the financial markets that have constrained credit supply.”⁵⁰

As regards, India's household consumption, traditionally it had been on a much higher side. According to the International Monetary Fund, the household consumption share of the economies of Brazil, Russia, India and China were 62.8 percent, 54.1 percent, 57.3 percent and 35.1 percent of their GDPs respectively in 2011.⁵¹ Notwithstanding its major contribution to economic growth the household consumption in India is not equally distributed over the complete strata of society. There are, as usual, rich versus poor and urban versus rural divide and depending upon money in their hands, the demand and consumption of consumer goods will vary. The current slowdown in economy is being attributed to lower demand due to lower incomes. On the rural front, it is believed that a sharp fall in food inflation has shifted the terms of trade against agriculture. With farmers getting less money for their produce, it has resulted in a big squeeze on farm incomes and accordingly drop in the household consumption. The World Bank report cited a drop in private consumption growth—from 7.3 percent a year ago to 3.1 percent in the last quarter—and negligible manufacturing growth as the main reasons for India's slowdown.⁵²

The Indian Automobile industry became the 4th largest in the world with sales increasing 9.5 percent year-on-year to 4.02 million units (excluding two wheelers) in 2017. It was seventh largest manufacturer of commercial vehicles in 2018.⁵³ The automobile industry contributes 7.5 percent of India's GDP and a whopping 49 percent of manufacturing GDP; it has suffered its worst-ever monthly sales performance in August 2019. According to the Society of Indian Automobile Manufacturers (SIAM), the industry directly employs eight million people in the manufacturing and services sector including dealerships. When one considers the extensive backward and forward linkages that include

among others small financiers, drivers and fuel pump attendants, the number swells to around 40 million people. Many companies have resorted to production shut downs to align with plummeting sales. According to Automotive Component Manufacturers Association of India (ACMA), the auto component industry employs about five million people and it fears massive job losses to the tune of one million if the situation is not addressed immediately.⁵⁴ The automobile industry's problem has not occurred all of a sudden; rather it is the impact of various events/decision taken since last year October-November, which is becoming visible now. Few of these are:

- ✓ First, the Infrastructure Leasing & Finance Services (IL&FS) defaults dealt a body blow to aggregate demand in many consumption-focused sectors including autos. Linked to the IL&FS are many Non-Banking Finance companies (NBFCs) providing financial support to housing and auto sectors.
- ✓ In an environment of heightened risk aversion, the auto industry was looking forward to pro-active measures from the government to help rejuvenate demand. Sales have been on the decline for last eight months despite heavy discounts.
- ✓ The industry has invested thousands of crores rupees in upgrading their products to comply with the BS-VI emission norms that have been made mandatory from 1 April 2020. Europe gave 10 years to its advanced automobile industry to switch from Euro-IV to Euro-VI in two stages, whereas Indian manufacturers have been forced to switch over in just three years. Judicial activism combined with government's policy decision forced the manufacturers to fast-forward the switch over to BS-VI norms or face heavy consequences.
- ✓ Considering the government's intention to disallow registration of non BS-VI compliant vehicles from 1 April 2020, manufacturers will be forced to curtail production of BS-IV vehicles from the

second half of FY 19-20. Further, in an environment of slowing demand for vehicles, this switch over will add a substantial 10 to 15 percent to the cost of vehicles.

- ✓ While the industry, having invested colossal amount, is concerned about the evolution of demand for BS-VI vehicles from FY 20-21, it was given another blow through an unofficial ultimatum that they need to prepare for a complete switch over to Electrical Vehicles (EVs) in case of three-wheelers by 2023 and two-wheelers by 2025 without any thought to the creation of charging infrastructure, costs of lithium-ion batteries and so on.⁵⁵
- ✓ A change in “mindset” among consumers has also impacted demand for private cars. Millennial are now preferring not to commit their savings or even ‘equated monthly installments’ (EMIs) for buying an automobile but instead to take Ola, Uber or even metro.⁵⁶

Another cause attributed to lack of investment was Reserve Bank of India (RBI) unrealistically keeping interest rates too high for several years when because of sustained low inflation, it should have done exactly the opposite. The squeezing of liquidity for half a decade when conditions favored loosening credits, significantly affected investment. The RBI's belated rate cuts should help in due course.⁵⁷

The government also faced a shortfall of Rs 1 lakh crore in GST collections in the previous financial year.⁵⁸

Steps Taken by the Government to Reverse the Economy's Slowdown.

Conscious of the fact that the Modi government's goal is to enlarge India's economy to \$5 trillion over next five years, it has taken various steps firstly to arrest the present economic decline, restore public confidence and then regain the economic momentum.

People usually buy consumer durable goods, in particular, automobiles during the approaching festive season. Automobiles, forming almost 50 percent of the manufacturing sector, are mainly responsible for bringing the GDP growth down. Hence, the government is working on steps to revive auto industry, which are:

- ✓ Vehicles compliant with BS-IV emission norms registered before 31 March 2020 would be allowed to run for the entire registration period.⁵⁹
- ✓ Carmakers have been allowed an extra 15-percentage point depreciation until March 2020 on unsold inventories. This will encourage them against drastic cuts in production.
- ✓ Unfreezing of car purchases for its departments. The government has also allayed the fears that it could ban the sale of internal combustion engine (petrol and diesel) vehicles, or tax them more, as it promotes electric vehicles.⁶⁰
- ✓ Increasing depreciation on new vehicles for commercial fleet service providers.
- ✓ Urging banks to make auto loans cheaper and increase credit availability to non-bank lenders, to boost demand.⁶¹
- ✓ Proposal to cut down GST on automobiles, attracting presently 28 percent rate, has not yet been accepted by the government as there are varied views on that.
- ✓ For commercial vehicles, GST rate cut may not be enough to revive demand. It is opined by various analysts that an attractive vehicle scrappage policy is more realistic to create sustained demand.⁶²

To boost credit availability, the government has announced release of Rs 70,000 crore, which includes a Rs 50,000 crore package for exports and the creation of a Rs 20,000 crore fund for real estate projects to help complete around 3,50,000 flats and houses stuck in

various stages of construction.⁶³ Further, the government has also announced online tracking of various kinds of retail loans to achieve synergy between state-owned banks and NBFCs to improve credit supply.⁶⁴

On August 26, the Central Board of the Reserve Bank of India (RBI) decided to transfer a surplus of Rs 1.76 lakh crore to the government – its highest transfer ever. The surplus from the central bank comprised two components - Rs 1.23 lakh crore of surplus for the year 2018-19 and an additional Rs 52,637 crore of excess provisions that was made available as per the revised economic capital framework recommended by the Bimal Jalan Committee. Of the Rs 1.23 lakh crore, the RBI has already transferred Rs 28,000 crore to the government in the previous fiscal. In the Union budget, the government had presented an optimistic scenario of raising Rs 4.76 lakh crore in additional resources to meet budget expenses. Due to clear slowdown ahead, this revenue target may not be met, in which case the surplus from the RBI would be used to bridge the shortfall.⁶⁵

The GST is almost two years old now. Having transitioned to the new indirect tax regime and overcoming the initial teething problems during the first year, the government has tried to bring more stability and simplicity to the tax regime in the second year, primarily through more efficient use of technology. There is a general consensus that GST has reduced the overall tax incidence in most cases and also brought efficiencies to the supply chain. However, the compliances have consumed too much time and effort. Though there is drop in revenue during August 2019 to Rs 98202 crore and again in September 2019 to Rs 91916 crore but the government is endeavoring to increase its revenue by using robust data analytics. Further, experts hoped for an upturn in October on the back of increased demand during the festival season.⁶⁶

The latest in the series of stimulus announced by Finance Minister Nirmala Sitharaman is a boost of Rs 1.45 lakh crore by reducing

the corporate tax rate for domestic manufacturing companies from 30 percent to 22 percent and for new manufacturing companies from 25 percent to 15 percent. This has resulted in the stock markets registering the highest single-day rise in a decade. This move will allow the Indian companies to compete with those in lower tax jurisdictions like the US. These tax cuts will be effective retrospectively from 1st April, the start of the fiscal year.⁶⁷ In short-term, the prices of two- and four-wheelers manufactured by profitable auto makers are likely to come down, just in time for the festive season.⁶⁸ However, foreign firms, which are basically defined as firms that do not pay dividends in India, but do business here, have been excluded from this reform. If the aim is to encourage foreign firms to invest more in India, this complete exclusion needs to be given a relook. Besides attracting investment from foreign firms, India needs technology from foreign countries, which these firms will bring.⁶⁹

Federal indirect tax body GST council has also slashed tax rates on a host of products and services, including hotel stay and outdoor catering, besides easing the compliance burden for small and medium enterprises. The tax cuts are expected to promote exports and boost economic growth.⁷⁰

Modi government has given special emphasis to investor-friendly measures. India's ranking on the World Bank's ease of doing business has zoomed from 142 to 77.⁷¹ Yet there are many legacy matters which affect the manufacturing sector. Land reforms and labor laws are the major issues which need to be resolved immediately to create a business-friendly environment. According to Derek Scissors, an expert on the Indian economy at U.S.-based think tank the American Enterprise Institute, the ceiling on GDP growth is due to the country's management of its labor force. He said, "India certainly has the labor force to grow (its economy) that quickly... and it is young."⁷²

Double-Digit Growth for GDP: Outstanding Feats Require Extraordinary Solutions.

It was only once in 1975 and then again in 1988, India's GDP growth rate has reached 9.1 and 9.6 percent respectively.⁷³ Thus achieving a growth rate of 10 percent and above, that too for a sustained period, will be an outstanding achievement, which is only possible by adopting extraordinary means or revolutionary ideas like it was done by China.

Firstly, economic situation in the country is not as dismal as it is painted in the media. If on one side situation in the automotive industry is projected as gloomy, on the other hand e-commerce sector is flourishing. For instance, India's largest carmakers are seeking government's help for the sector, at the same time Amazon is opening its largest global campus in Hyderabad, employing more than 15,000 people as well as committing even more investment in India.⁷⁴ Further, unfazed by the consumption slowdown in India, startups are marching ahead to create more jobs for the future. According to professional social networking site LinkedIn, 25 companies on its 2019 list of top startups in India collectively created around 18,000 jobs in the past year and are expected to create more than 19,000 new opportunities over the next 12 months.⁷⁵

Secondly, economic strength of a country is one of the components of its comprehensive national power, which has other components like military capability, scientific and technological base, social and political stability, soft power and so on. To build up these capabilities so that a nation can achieve its geopolitical objectives is the responsibility of the political leadership. An economist or the so-called economic expert can only analyze the past economic history of a nation and determine the causes of success or failures and project the future economic growth trajectory by extrapolating the tangible factors. Future economic growth of a country will depend upon the hard decisions taken by its leader because that will involve bold initiatives, which carry elements of risks. If they succeed, the results will be complete transformation but if they fail, these are termed as misadventures. For example, Chairman Mao could not succeed in his life

time to make China a great power but after his demise, by implementing transformational ideas Deng Xiaoping made China to rise and become a global power to reckon with. If economic power of a country could be built up better by an economic expert than most countries in the world would have economic expert or even a Nobel laureate as their finance minister. But that is not the case. It may be apt to quote the views of Jean Dreze, an eminent development economist and a co-author with Nobel laureate Amartya Sen, from his 2018 article, *“In short, I feel that economists need to be cautious and modest when it comes to giving policy advice, let alone getting actively involved in ‘policy design’. Their expertise and research can certainly contribute to more informed policy discussions and public debates. But if they give advice, it is best done as concerned citizens rather than plumber-like economists, in collaboration with others from different disciplines and walks of life.”*⁷⁶

Even the private business empires have been built by persons, who did not have any economics background but had a great business sense or acumen. For example, Late Shri Dhirubhai Ambani initially worked as a clerk in an Indian-run import-export firm and he started Reliance Textiles by importing four second-hand machines from abroad. Today Reliance Industries is worth \$ 140 billion. The US President Donald Trump, barring aside his critics, has revived the American economy and brought the unemployment rate down because of his shrewd business sense.

Thirdly, there are no dearth of opinions by economists and business leaders to identify the causes leading to current slowdown of Indian economy and offer general principles or guidelines to revitalize the economy and even achieve the double-digit growth rate. Heading this bandwagon is Dr. Manmohan Singh, former prime minister and an eminent economist himself, who in interviews to ‘Dainik Bhaskar’ and ‘The Hindu Business Line’, has suggested a five point formula for revival of the economy: one, rationalize GST rates even if it leads to short-term revenue loss; two, revive demand or boost consumption through “innovative ways”; three, find remedies to fix labor-intensive sectors

e.g., automobile industry and real estate; four, boost liquidity; and five, recognize new export opportunities.⁷⁷ There are no concrete suggestions as to which are the “innovative ways” to boost consumption or which all items have the potential for new export opportunities.

These factors affecting the GDP growth are well known and it is credible for the Modi government that it has acted on a war footing and remedial actions to reverse the economic slowdown have been taken within three weeks from the day the GDP figures for the first quarter were announced.

Though even the World Bank is appreciative of India's efforts towards introduction of GST and demonetization as these are expected to encourage a shift from the informal to the formal sector. But like his party being obsessed with blaming the present government for every downturn, he too emphasized that the demonetization and flawed implementation of GST have led to the slowdown. Stretching it too far in the same interview, while blaming the present government for drop in demand, Dr. Singh stated that, “the fact that sales of Rs 5 biscuits (Parle) have declined tells its own story.”⁷⁸ Had this point been made by a low-level, street-smart politician in a public rally to score a brownie point over the government, it would have been acceptable but could not be expected from an intellectual like Dr. Singh. Probably in his enthusiasm to show the NDA government in poor light he must have mixed up his economic knowledge with his political sense.

India is considered to be the third largest producer of biscuits in the world, after the United States and China. Biscuits are India's largest consumer product segment, worth Rs 35,000 crore, and grew 2.5 percent in the April-June quarter. Biscuits costing more than Rs 100 per kilogram, the premium version, account for two-thirds of the market and grew 8 percent. The rest of the market – selling for less than Rs 100 per kilogram fell 9 percent. According to Mayank Shah, category head at Parle Products, “While value categories or small packs are seeing a decline, there has been no issue in consumer demand for premium sub-segments and bigger packs in biscuits, which are still growing.”⁷⁹

However, what is to be seen is that the urban-rural divide holds true for consumption of most fast-moving consumer goods in India. Urban and discretionary products are growing at a faster pace. Daily home and personal products like creams, detergents, toothpastes, deodorants, premium soaps and food items such as chocolates, malted beverages and noodles have a higher consumption rate now compared to the erstwhile basic needs of cheap biscuits, salty snacks and so on.

It may be interesting to note that the **Index of Industrial Production** (IIP) which details out the growth of various sectors in Indian economy viz., mineral mining, electricity and manufacturing was last revised by shifting the base year from 1993-94 to 2004-05, covering 682 items comprising 61 from Mining & Quarrying, 620 from Manufacturing and 1 from Electricity Sector having the weightage of 14.16 percent, 75.53 percent and 10.32 percent respectively in the all-India IIP.⁸⁰ With the consumption pattern having undergone a sea change over last 15 years, base year needs to be revised, new items may have to be added and weightages also to be changed.

While planning the concept of “**peaceful rise**” for China, Zheng Bijian, Chairman of the China Reform Forum, had anticipated that China would seek to double its GDP in the first decade (from 2000 to 2010) and in the second decade (from 2010 to 2020) Beijing would aim to repeat this feat, bringing per capita incomes to approximately \$3000 (per annum).⁸¹ But China has risen inexorably along the developmental track and what Zheng had anticipated to happen by 2020, had already been accomplished in half of its time. According to the World Bank’s statistical record, China’s GDP in year 2000 was \$1198.5 billion and by 2010, it’s GDP at \$5878.6 billion⁸² was almost five times. As far as per capita income was concerned, China had attained the figure of \$3414 by year 2008.⁸³

Thus if Indian government’s aim is to take India’s economy to \$5 trillion by 2024 and double it to \$10 trillion by 2030,⁸⁴ it is very much feasible. However, to achieve that we need revolutionary ideas

to transform the country in to manufacturing hub, not only to cater for increased domestic consumption but simultaneously to create an export boom. There is no scarcity of ideas as Prime Minister Narendra Modi is a treasure house of new ideas but to convert those ideas in to reality, whole-of-the-government approach is required to turn those ideas in to mass movements. China could achieve the economic objectives laid down by its paramount leader because he had the organizational support of communist party and people cannot disobey the diktat of the party. To achieve the similar results in India, bureaucratic organization and its departments, which are mandated to implement the policies of political leadership, are required to perform the duties of junior leaders for interacting and motivating the wide variety of people at ground level ranging from village panchayats to entrepreneurs / startups to business tycoons. They should learn the teamwork from Indian Army as to how its junior leaders act when tasked to provide support to civil population in any emergency.

Instead of working on multiple objectives, the government needs a focused approach to achieve splendid results in certain key areas to create a momentum and once that is attained, nobody will be able to stop the Indian economy's juggernaut. This can be condensed in the form of a '*Panchamrit*' (five drops of nectar) as follows:

- **Diversify Agricultural Economy.** In India, as per the 2011 Census, 68.8 percent of country's population and 72.4 percent of workforce resided in rural areas, contributing 46 percent of national income.⁸⁵In 2016, Modi government had rightly set an ambitious target to double farmers' income by 2022 because with more money in the hands of two-thirds of country's population that is the best way to boost consumption, create more demand and thereby enhance the GDP growth. But the continuing low food prices resulted in to a squeeze in farmers' income. Farm stress being the major issue in the run up to 2019 Lok Sabha elections, the earlier Modi government was compelled to announce PM-KISAN scheme under which Rs 6000 per year are to be given

to all 14.5 crore farmers in the country, irrespective of the size of their landholding.⁸⁶ But double-digit growth of GDP cannot be achieved by such populist measures. The value of agricultural produce needs to be increased:

- The productivity of Indian agriculture is low and besides getting affected by erratic monsoons, drought and untimely excessive rains, it is a function of local infrastructure, soil quality, local resources, farmer knowledge and innovations. Another serious problem is the lack of rural road network, storage, logistics network, and efficient retail to allow free flow of farm produce from most productive but distant Indian farms to Indian consumers. There had been several incidents where the farmers threw their crop (such as onions, potatoes, tomatoes etc.) on roads because they didn't get the right price in the wholesale market.⁸⁷ At individual level, Indian farmers are no less than their counterparts in China and are competing to establish world record on rice yields. But overall crop yields in India are still just 30 percent to 60 percent of the best sustainable crop yields achievable in the farms of developed as well as other developing countries.⁸⁸ According to M.S. Swaminathan, agricultural scientist, famous as Father of Green Revolution in the country, *"Given our current per hectare output, there is scope for at least a 50 percent increase in yields. That if we just use the technology currently available in the country."*⁸⁹
- Need to widen the current food security program in India by moving beyond cereals and focusing on sectors like horticulture, dairy and poultry, for which there is greater demand in urban sector.
- Cultivation of export quality products fetch better prices for farmers. The government has planned to expand the size of India's agricultural exports from the present \$38.5 billion

(2018-19) to \$60 billion by 2022. Presently, marine products, basmati rice, buffalo meat, spices and non-basmati rice make up 55 percent of the total agricultural export basket. Exotic vegetables and fruits like mangoes, grapes, bananas, pomegranate, litchi, pineapple and even flowers have a great potential for export but have not yet been fully exploited.⁹⁰ For instance, there are close to 1500 varieties of mangoes grown in India⁹¹ out of which, 15 can be considered of exotic variety, worth for export.⁹² However, only Alphonso and Kesar from Maharashtra, and Dashehri and Chausa from Malihabad / Saharanpur till now have found the place for export.⁹³ Radiation processing is very useful for enhancing the shelf life of fruits and vegetables by delaying the ripening process and eliminating parasites and pathogens. But India has set up only 22 Gamma irradiators compared to 550 in the US, 308 in Japan and 260 in China.⁹⁴

- Experts are of the opinion that rural economy can expand substantially, if processed food products are also exported and for that Ministries of Agriculture and Food Processing have to work in tandem.⁹⁵
 - Besides producing almost all-agricultural produce, rural areas contributed around one-third of non-farm output and 48.7 percent of non-farm employment in the country.⁹⁶ Village youth should be encouraged to set up startups for making Khadi natural products like fragrant soaps and massaging or aromatic oils, which have a great demand in urban areas and in Europe and the United States. These will sell only when the state assists them in branding the products, marketing and ensuring quality control. They can also set up small-scale industries to manufacture farming tools and other implements.
- **Expand Manufacturing Sector.** Presently in India, manufacturing sector is 16 percent of GDP (compared to 42

percent in China and around 30 percent in South Korea) and accounts for a mere 12 percent of the work force. However, manufacturing contributes almost 50 percent of India's exports and every job created in manufacturing has a multiplier effect creating three jobs in the services sector. It implies that with the rise of manufacturing, there will be a four-fold job creation.⁹⁷ Under the "Make in India" initiative, the Government of India aimed to increase the share of the manufacturing sector to the GDP to 25 per cent by 2022 and to create 100 million new jobs by 2022.⁹⁸ However, the scheme hasn't been able to boost up the share of the manufacturing industry. Rather, the percentage of the manufacturing industry in India's GDP came down to 15 percent in 2017, according to World Bank data. India has been able to attract only a minuscule number of companies to manufacture in India, such as Alstom has commenced production in its E-loco plant at Madhepura (Bihar) and is also setting up maintenance depots at Saharanpur (Uttar Pradesh) and Nagpur (Maharashtra). Boeing Co. in collaboration with India's Tata Aerospace Ltd has recently inaugurated its facility to produce fuselages for the AH-64 Apache helicopter in Hyderabad. In telecom, Gionee and Xiaomi (China) are making their handsets at Foxconn plant in Andhra Pradesh, and Apple is about to start manufacturing iPhones in Bengaluru.⁹⁹ These ventures are nowhere near the ambition of making India as a manufacturing hub.

Again a new hope is being created with the reduction in corporate tax rate to 15 percent for green field manufacturing projects. The tax rates now being lowest in South and Southeast Asia, the government hopes it will make India more appealing to multinational manufacturers that are preferring countries such as Vietnam, Taiwan, Thailand and Malaysia. Further, the government is looking to attract investment flowing out of China following its trade dispute with the US.¹⁰⁰ A country does not become an

economic super power by basing its ambitions on the premise that foreign countries or multinationals will come and set up their industries over here. Therefore, one has to have indigenous solutions to fuel own ambitions. Though the nation is seeking to double its GDP in next five years but a multinational company will set up its manufacturing plants, only if it sees a bright future for next 20 to 30 years. With 50 percent of country's manufacturing sector being based on automobiles is not a healthy situation. Manufacturing should be based on emerging demands both in domestic sector and for export. If the product is related to saving energy, saving the environment, protection from adverse climate effects such as sudden rise of temperatures during summers or disaster management, it will have mass appeal in future because none of the country in the world including the United States can escape from these. Prime Minister Narendra Modi has generated numerous initiatives having mass appeal but their economic angle has not been fully exploited. Just to drive a lesson home, only two of his initiatives are being discussed, one from his previous tenure and the second is the recent:

- Solar Energy Development. Prime Minister Narendra Modi and former French President Francois Hollande had jointly launched the International Solar Alliance (ISA) on November 30, 2015 in Paris, France. The vision and mission of the International Solar Alliance is to provide a dedicated platform for cooperation among solar resource rich countries (121 in number) that lie completely or partially between the Tropics of Capricorn and Cancer, the global stakeholders, including bilateral and multilateral organizations, corporate and industry.¹⁰¹ One of its objectives is to undertake innovative and concerted efforts for reducing the cost of finance and cost of technology for immediate deployment of competitive solar generation. ISA aims to invest \$1 trillion, raised from public and private investors, for solar projects that will provide 1 TW

of solar energy globally. Speaking about India's contribution to this goal, PM Modi had said, "India will produce 175 GW electricity from renewable sources by 2022, and 100 GW will be from solar energy."¹⁰²He added, "Further target is 450 GW for renewable energy capacity at a later date."¹⁰³ About 80 countries have joined India's ISA. Cumulative solar installations have reached 30 GW as of March 2019, i.e., 30 percent of its solar installation goal of 100 GW by 2022. This means 70 GW of solar needs to be installed in the next 3 years – a tall task indeed.¹⁰⁴However, solar developers in India prefer the Chinese modules, i.e., solar panels and photovoltaic cells because of their low prices and better quality.¹⁰⁵ Any effort to hurt the imports will jeopardize India's ambitious target of attaining 100 GW in next three years. In fact, a year before the decision to evolve a vision for ISA was taken, the Research & Development (R&D) project should have been given to the Indian Scientific institutes to develop cheaper or competitive solar modules, may be in collaboration with another country/ countries, with strict timelines so that by now India should have been guiding and investing in member countries of ISA. A spurt in manufacturing quality solar modules will lead to new jobs and decreased reliance on Chinese imports.

- **Coalition for Disaster Resilient Infrastructure.** During his speech at the UN Climate Action Summit 2019 in New York on 23 September, Prime Minister Narendra Modi announced launching of 'Coalition of Disaster Resilient Infrastructure' (CDRI) and invited all member states of the UN to join the grouping. Modi first mooted CDRI as an idea in November 2016, while inaugurating an Asian ministerial conference on disaster risk reduction. Subsequently, New Delhi hosted two meetings in 2018 and early this year, in which as many as 35 national governments, UN agencies, multilateral development banks, private sector organizations and knowledge institutions,

took part. India's intention is to help countries to design and build infrastructure projects that can withstand the impact of natural disasters and climate change.¹⁰⁶ If the idea was germinated in early or mid 2016, it is already three years past, the Indian engineers would have been tasked to produce engineering solutions in terms of new innovative designs or pre-stressed, pre-fabricated structures or even new materials to withstand or operate in different type of disasters. These should have been showcased or demonstrated in exhibitions simultaneously when Prime Minister Modi was delivering his address so that desired countries could join the initiative immediately and investment would have flowed in.

- **Focused Skill Training.** In the Indian society, an individual pursuing mainstream education and opting for a profession like doctor, engineer, manager, professor/scientist and so on, is considered to have a glorified status. Whereas vocational education is viewed as a reluctant option for those who are less privileged, incapable of pursuing mainstream education due to financial constraints or being from the vulnerable section of society. This mindset has to be broken. Quality and relevant vocational education and training or VET can provide the youth with the knowledge, skills and competencies required for the jobs of today or tomorrow.

The German Vocational Training System, also known as the dual training system, is highly recognized worldwide and is firmly established in the German education system. The main characteristic of the dual system is cooperation between mainly small and medium sized companies, on the one hand, and publicly funded vocational schools, on the other. This cooperation is regulated by law. Trainees in the dual system typically spend part of each week at vocational school and the other part at a company, or they may spend longer periods at each place before alternating. Dual training usually lasts two to three-and-a-half

years. After getting training in nationally recognized occupations, the participant is issued a certificate by a competent body such as a Chamber of Industry and Commerce or a Chamber of Crafts and Trade. Training, testing and certificates are standardized in all industries throughout the country. This ensures that all apprentices receive the same training regardless of region and company. Moreover, employers have trust in these certificates as they provide evidence of what an individual knows and is able to do. Germany enjoys low youth unemployment and high skill levels. In Germany, about 50 percent of all school-leavers undergo vocational training provided by companies, which consider the dual system best way to acquire skilled staff.¹⁰⁷

India is relatively young as a nation with around 10 million youth population being added every year. In 2020, the average age of an Indian will be expectedly 29 years, while it will be 37 for China and 48 for Japan.¹⁰⁸ Taking in to account the advantage of demographic dividend in India's favor, Prime Minister Narendra Modi launched ***Skill India*** campaign on 15 July 2015 which aims to train over 40 crore people in India in different skills by 2022. According to the 2018 annual report of National Skill Development Corporation (NSDC), a public-private partnership, it trained 3.98 million students that year, through 11,035 training centers across 40 skill development programs. Only about 12 percent of those who were trained under NSDC programs found jobs, according to government statistics.¹⁰⁹ However, just 25 million youths have been imparted skill training so far under various government schemes.¹¹⁰

Thus the target set under *Skill India* campaign appears to be unachievable with in the given time frame and further with the low job absorption, people will not be coming forward enthusiastically to join the skill training programs. Lack of a trained work force will not only impede the growth of manufacturing sector but will also increase the ratio of unemployment, thereby turning the

demographic dividend in to disadvantage. We must concentrate less on number of people trained but more on quality and certification should meet the international standards. Reportedly, India has already arranged to cooperate with the German government for seeking expertise in dual training. Germany's dual system should be accepted as a model but not as a blue print. The country must take existing framework conditions in to considerations and implement the dual vocational training in line with the country's peculiar educational, social and economic objectives.¹¹¹ There are currently around 220 to 330 vocational training programs or courses being conducted in Germany and in various states of the United States and these courses range from electrician and plumber to nuclear technician, radiation therapist, computer specialist, fashion designer and Interior designer to commercial pilot.¹¹²

Rather than adding numbers, initially we must focus on quality of vocational training, which should be of international standard and assured employment to the candidates in the manufacturing sector. The certification should be acceptable abroad so that our skilled youth can also be employed on projects undertaken by our country in the friendly foreign countries or on merit basis in those countries, where there is shortage of young manpower. The remittances sent by Indian nationals from abroad will further strengthen our foreign exchange reserves.

- **Export Promotion.** Net export (exports - imports) is one of the main pillars of GDP growth of a nation. Due to rapid developments in transportation and speed of communications, the quantity of exports has become a game changer in the growth of economy of a country. China is the best example. China has adopted a triangular structure for trade with its most important trading partners. China imports about twice, as much as it exports, from five East Asian neighbors including Korea and Taiwan, rather in case of Taiwan, China imports four times as much as it exports.

By contrast, China exports more than three times as much as it imports to the big three export markets of the United States, European Union and Hong Kong.¹¹³ Thus overall trade balance is more important, rather than comparing the trade deficit or trade surplus with individual countries.

Another aspect of globalization is the formation of complex production and supply chains, wherein technologically advanced nations have shifted their manufacturing or final assembly units to developing countries, making use of their cheap but skilled manpower. China has thus become the point of final assembly for a variety of goods, which are manufactured by means of complex production chains stretching across many countries. In fact, Japan has a commanding position because of its expertise in technology, especially in manufacturing. China is highly competitive as a point of final assembly but so also the other countries in South East Asia, which could also perform these activities at reasonable cost.¹¹⁴

However, Chinese labor is not cheaper now -the average monthly wage rate in China is more than \$600. In recent years the labor force in Southeast Asia has been growing twice as fast as China's and even more critical is that their labor costs are generally below those of China; among the ASEAN, Thailand's monthly wage of about \$400 is the highest and Indonesia's monthly wage of approximately \$200 is the lowest.¹¹⁵ In fact, it is ASEAN's competitive cost of labor—coupled with policies that facilitate industrial clustering—that it has become an attractive destination for trade and investment by multinationals as also other nations. Rising production costs in China already have been driving the manufacturing and production location decisions toward ASEAN countries¹¹⁶ and further US – China trade war has added momentum to this shift. With Modi government's business friendly policies, India can emerge as the favorite destination for multinationals; however, we should keep our suitably skilled

manpower ready to be gainfully employed. India can emerge as the end-point of the assembly chain for high-tech items as a first step and enhance its export portfolio.

Moreover, the thrust of India's exports should be based on indigenous industries through which it should be able to meet the emerging demands of global market. Hitherto unexploited markets in Africa, Eurasia and the United States should be targeted. Ideally, the Indian embassies and consulates should be promoting the trade by providing inputs to the industry about the new demands but India's diplomatic corps is miniscule compared to its counterparts in the United States, China and even Brazil. According to the Ministry of External Affairs, India's diplomatic corps consists of around 1,750 officers (750 IFS Grade-A officers, 250 IFS Grade-B personnel, defense attaches and other officers).¹¹⁷ If we want to be proactive in enhancing our exports, we should create post of *Commerce Attaches* on the lines of *Defense Attaches*, who should monitor that country's business environment and provide regular feedbacks about the emerging demands. They can act as interface between the business communities / industrialists of two countries. For example, changing climatic conditions are throwing up new challenges for human beings at unexpected places on the globe. People across Western Europe suffered through intense heat wave, with Britain, Germany, France and the Low countries reaching life-threatening, record breaking temperatures during this summer.¹¹⁸ People over there are not used to such weather, structures are not built for it and homes in general don't have air conditioning. That was the time, when India could have supplied non-air-conditioned, environmental friendly, economical but effective appliances to meet their short-term requirement. Only a person with fine business sense, present in that country, can sense such an opportunity and sensitize his country about the urgency of requirement, hence, the necessity of having a *commerce attaché*.

- **Technology Absorption and Innovation.** The advancement in technology provides the momentum to the economic growth and allows a country to remain ahead of others in the international arena. Therefore the developed countries keep the intellectual property rights (IPR) of their products as a closely guarded state secret. Accordingly, none of these countries will part with its latest technology in any technology transfer to another country. It will provide its second-best or rather third-best technology, that too at a huge cost. Having acquired the basic design, the recipient country should absorb the technology and further innovate on it to be ready to produce the next generations of products with which it can compete with others in the world market. For instance, with a view to pursue quick profits, China initially imported equipment without caring for software such as patents, know-how, blueprints etc. Once the equipment was imported, almost no financial resources were given to absorption, assimilation and innovation. As a consequence, few Chinese enterprises owned independent intellectual property rights in core technologies, as it is apparent from the data available on patents. Because of their interest in utility model and design patents, Chinese firms lagged far behind their foreign counterparts in invention patents. Thus China developed rapidly but it was processing- and assembly focused, low-end product-oriented and foreign-invested enterprise-led.¹¹⁹ With its quest for upgrading the technology, China resorted to theft of intellectual property through cyber-espionage, lack of enforcement of IPR and heavy-handed or forced technology transfer (FTT) policies. China reportedly causes approximately \$ 600 billion a year intellectual property thefts costs to America.¹²⁰ The U.S.- China Trade war, which was started by President Trump to reduce the massive trade deficit with China, is concentrating more on technology-transfer matters. Washington has not only demanded Beijing to end its practice of forcing foreign joint venture partners to transfer technologies to their Chinese collaborators, but is also scrutinizing the works of Chinese researchers based in the US.¹²¹

Thus while importing manufacturing plants or undertaking joint ventures with foreign countries or multinationals, India's endeavor should be to assimilate the technology and innovate on it to produce indigenous advanced versions. For example Shinkansen bullet train from Ahmedabad to Mumbai is being built with Japanese assistance and 81 percent of the total project cost ₹88,087 crore (US\$13 billion) is being met through a 50-year loan at an interest rate of 0.1 percent with a moratorium on repayments up to 15 years.¹²² It will be a great achievement if India can fully absorb the technology, train its manpower in a manner that it could undertake future bullet train projects on its own within the country as also win the bids in other countries. Another aspect is that we should invest adequately in disruptive technologies likely to be evolved during the ongoing Fourth Industrial Revolution and try to seek the "first-mover" advantage over other nations. A nation needs not to go through the hierarchical phases of development because of the technological breakthroughs. The President of the World Economic Forum (WEF), Borge Brende, firmly believes that Fourth Industrial Revolution can help India leapfrog traditional phases of development and accelerate its transition to a developed nation. He said, "*India is well positioned to enhance its global leadership in a post Fourth Industrial Revolution era*".¹²³

Conclusion

Having correctly identified the causes of current slowdown in the economy's growth, the Indian government has moved on war footing to nip the problem in the bud by providing stimulus to the corporate sector so that they can invest more and to the consumers of various strata so that they can spend more, thereby rejuvenating the cycle of demand and supply.

Though India has slipped 10 notches to the 68th position in the Global Competitiveness Index (GCI) this year, according to the World Economic Forum's (WEF's) report released on 9 October but the Report ranks India high on macroeconomic stability (43) and market size (3). WEF said India's financial sector (40) is relatively deep and stable despite the high level of loan defaults (106). India performs well when it comes to innovation (35), ahead of most emerging economies and on par with several advanced economies. Further India needs to work towards skill development and grow its skill base.¹²⁴

Having taken all necessary actions to curb the slowdown, it is assessed by Monetary Policy Committee (MPC) of the Reserve Bank of India that recovery might be underway. When a government plans a nation's mission to be achieved over a period of 5 to 10 years, then its leaders definitely take in to account the hurdles or setbacks likely to occur during the course and do have contingency plans to cater for such situations. With macroeconomic fundamentals in India's favor, it will soon curb the economic slowdown. However, to gain sustained double-digit growth, Indian economic engine will have to run on the **STEAM** as elaborated above i.e., **Skilled manpower** in adequate numbers to work in expanding domestic manufacturing sector as also to work in foreign shores; **Technology** – absorption, assimilation and innovation – ultimately leading to 'Made in India'; **Exports** demand be identified in emerging markets all over the world; **Agriculture sector** be made competitive to capture the world market; and most importantly the **Manufacturing sector** to expand to meet the requirements of domestic consumption as also exports.

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