Emerging Dimensions in the Indian Economy and Role of Logistics

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Prologue

The Author has written a well-researched Article on the role of logistics in the Indian economy. The importance of the Special Economic Zones (SEZs) for the Indian economy, and the pre-requisite of efficient transport system, has been highlighted.

The relevance of automobile hubs, logistics industry, and seamless cargo movement have been analysed. In view of the emerging financial crisis, globally and also in India, its expected impact on the industry has being commented upon. These, however, will have to be seen in the context of the contentious social issues arising out of the redistribution of land between agriculture and industry.

- Editor

The New Economy

To understand and appreciate the role and importance of logistics in the modern economy, it is imperative to understand the changes that have been taking place in the economy more generally. It is now common knowledge that revolution in the Information Technology and globalization are now the principal drivers of economic development in the modern economy. In the emerging WTO regime, the world is witnessing unprecedented growth in global trade propelled by the communication and information technology. During the period 1995-2005, where as the world GDP growth has been 3% p.a., the world trade has grown @ 6%, with phenomenal trade volumes registering a growth in excess of 20% among the developed and the emerging economies. The recent meltdown in the global economy has certainly retarded the process, but globalization, as a crucial motor triggering the economy, has come to stay periodical upheavals notwithstanding. Now the world has indeed become flat and is reduced to a “global village”.

In today’s highly competitive and global market place, the pressures on organizations to find new ways to create and deliver value to customers grows ever stronger. It is because...
of this that logistics and supply chain management has moved centre stage. There has been now a growing recognition that it is through logistics and supply chain management that the twin goals of cost reduction and service enhancement can be achieved to cope with the competitive pressure of modern day business. As effective logistics management can provide tremendous competitive advantage in the global market, logistics is now a strategic variable – a value added process – which ensures having the right item in the right quantity, at the right time and at the right place for the right price.

The Council of Logistics Management (CLM) has formulated the following definition of logistics.

“The process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods, and related information and financials from point of origin to point of consumption for the purpose of conforming to customers requirement.”

The activities within the sphere of logistics involve inland freight transportation, warehousing, material handling, protective packaging, inventory control, order processing, marketing, forecasting and customer service. Logistics can be classified into two categories: Business to Business logistics (B2B) and Business to Consumer (B2C) logistics. The domain of B2B logistics is much wider and constitutes about 80% of the total logistics activity and is again divided into two distinct categories: Inbound logistics pertaining to management of material movement and integration of component suppliers to manufacturers/assemblers and Outbound logistics which is the management of movement of the final products from a manufacturer to the distributors and retailers. B2C logistics, also called retail logistics, is the management of goods delivery from manufacturers/distributors/retailers to the end consumers.

Emerging Developments

As the importance of ‘logistics’ in efficient supply-chain management can hardly be over emphasized, it will be interesting to identify and analyze a few emerging developments and dimensions in the Indian ‘economy’, including the future potential areas, which will both stimulate and warrant efficient logistics to sustain the current growth and cater to the future demands of a growing economy, and its seamless integration with the global market. These have warranted the urgent need to create adequate logistics infrastructure. They are:

- Global trade typified in
  - Development of a large number of Special Economic Zones (SEZs) across the country.

- Thrust on manufacturing sector by way of development of
  - Industrial Corridors and Manufacturing Investment Regions (MIRs), industrial parks, etc.

- Emphasis on infrastructure by way of
  - Creation of Dedicated Freight Corridors by the IR.
- Multi-laning of national highways and construction of express highways.
- Expansion of existing ports and emergence of greenfield ports in the private sector.
- Modernization of airports

- Boom in infrastructure development, warranting growth in the steel and cement industries.
- Growing urbanization and changing life style leading to
  - Boom in the retail sector.
  - Growth in processed food and agri-business.
  - Growth in the automotive sector.

**Special Economic Zones**

India’s growing integration with the global economy is reflected by the trade openness indicator, the trade to GDP ratio, which increased from 22.5% of GDP in 2000-01 to 34.8% of GDP in 2006-07, and if trade of services is included, the increase is higher @ 48% in 2006-07 vis-à-vis 29% in 2001-02. But even with a burgeoning growth in exports in excess of 20% per annum during the last 3-4 years, its share in world export has remained by and large stationary at 1%. A major policy initiative in the trade sector, which has created a lot of heat, was creation of Special Economic Zones.

Special Economic Zones or SEZs, as they are popularly called, are special duty free enclaves designed to promote domestic and foreign investment in a comprehensive range of economic activities, from manufacturing at one end, to trading and financial services on the other, in an unfettered business environment. The SEZs are planned to provide high quality and world class infrastructure designed to render costs of products, delivery, logistics and transactions competitive on a global basis.

Till March 2008, “formal approvals” for setting up 450 SEZs have been granted, of which, about 200 have already been notified. The SEZs are either sector specific or multi-product SEZs for manufacturing of textile and apparels, leather, footwear, automotive industry, engineering, IT/ITES, pharmaceuticals, gems and jewellery, etc. The expected investment, when the approved SEZs become operational, is estimated as Rs 4,00,000 crores with an additional employment of 17.5 lakh persons. Needless to say, efficient logistics arrangements will be an essential prerequisite for the success of SEZs.

**Industrial Corridors**

The Indian economy has leap-frogged, from a predominantly agrarian and mining based economy to a service sector dominated economy, in the last decade or two without undergoing the structural economic changes that most of the developed and emerging economies have gone through by way of a strong industrial base. As a result, in India, manufacturing accounts for only 25% of GDP equivalent to US$ 115 billion as against 40% of
GDP in other upcoming economies. It has been amply demonstrated by the powerful economies of the world like USA, EU, Japan and China that it is through global trade-oriented manufacturing that wealth creation is possible, and growth in GDP sustainable.

Recognizing the importance of this sector, the Government’s emphasis is now on growth of manufacturing industries by way of development of Industrial Corridors, Manufacturing Investment Regions, Industrial Parks, Chemical Hubs, etc., with an objective to increase the share of manufacturing in GDP. In order to leverage the creation of the Western Dedicated Rail Freight Corridor between Delhi and Mumbai, passing through the states of NCR Delhi, Haryana, UP, Rajasthan, Gujarat, MP and Maharashtra, providing high speed connectivity between the Western Ports and NCR, the Government has decided to develop the Delhi-Mumbai Industrial Corridor (DMIC) along the alignment of the Western DFC. The vision of DMIC is to create a strong economic base on either side of DFC with globally competitive environment and state-of-the-art infrastructure to activate local commerce, enhance foreign investments and attain sustainable development. High impact/market driven nodes like integrated Investment Regions (IRs) and Industrial Areas (IAs) have been identified within the corridor to provide transparent and investment friendly facility regimes. These regions are proposed to be self-sustained industrial townships with world class infrastructure, road and rail connectivity for freight movement to and from ports and logistics hubs, served by domestic/international air connectivity, reliable power, quality social infrastructure, and provide a globally competitive environment, conducive for setting up businesses. An Investment Region (IR) would be specially delineated industrial region with a minimum area of 200 square kilometers (20,000 hectares), while an Industrial area (IA) would be developed with a minimum area of 100 square kilometers (10,000 hectares). 24 such nodes – 9 IRs and 15 IAs spanning across six states have been identified.

**Boom in the Retail Sector**

Although the organized retail sector constitutes barely 3% of the US$ 230 billion Indian retail market, it is now fast emerging as the fastest growing sector in the country. Today, India ranks first, ahead of Russia, in terms of emerging market potential in retail and is deemed a priority-1 market for international retail. For two consecutive years, A.T. Kearney has rated India at the top of the global retail development index. According to a study conducted by Ernst & Young, the organized retail sector is expected to grow fourfold from US$ 7 billion currently to US$ 30 billion by 2010. Other growing economies like China and Brazil took 10 to 15 years to raise the share of their organized retail sectors from 5% when they began, to 20% and 38% respectively now. Retail is the largest private sector industry in the world, which is highly organized in the developed economies where penetration in organized retail is as high as 85% as in USA and many European countries.

Current FDI restrictions in the retail sector notwithstanding, prominent international players have already entered the fray through various channels like strategic license agreements, franchising, cash and carry, and whole sale trading, etc. With possible future relaxation of FDI restrictions, there will be much higher influx of international players in the Indian retail sector.
Food and grocery contribute about 77% of the total retail sale, but the penetration of organized retail is as low as 1% in this segment, which is the primary reason for India’s low organized retail penetration. Like in Latin America and China, where hypermarkets have shown the highest growth, supermarkets and hypermarkets show a lot of promise in the retail market in India. Today there are only 25 to 30 hypermarkets in India operated by few major players, confined mostly to the metro cities. There is indeed enormous potential for the retail sector to penetrate in a large way to the tier II cities, as these cities are witnessing higher disposable incomes with changes in life style.

With a large population of about 5.0 million retail outlets, popularly known as “Kirana stores” spread across the country, retail activity is a critical component of the Indian economy accounting for nearly 8% of the total employment, making it India’s second largest employer after agriculture. The current FDI restriction in Retail is based on the apprehension that FDI in this sector will force the “Kirana stores” out of business and pose obvious challenges to employment in this sector. Despite the restriction, almost every large Indian group like Reliance, Bharti, Tata, Birla and Mahindra have jumped onto the fray by way of huge investment plans in the sector.

The lack of a well-organized distribution sector and absence of specialized distribution companies will be a major impediment for retailers to fully utilize the Indian retail potential. Though a number of private logistics companies have already emerged on the Indian scene, offering specialized services like refrigerated transport and other value added logistics services like warehousing, packing/repacking, etc., to ensure timely distribution of supplies to retail outlets, lack of adequate infrastructure in this field may pose a serious challenge to the expected growth in the sector.

**Processed Food & Agribusiness**

According to A.C. Nielsen’s “What is Hot Around the Globe” F&B 2006 report, developing countries across the globe are now set to account for most of the growth in future food demand. In order to realize the potential, the emerging market will have to build up the infrastructure to modernize their distribution channels.

India’s agriculture sector, especially with regard to food processing and allied activities, is going through a major transformation, driven by improving policy environment, increasing public-private participation and an increasing thrust on improvement in rural infrastructure. The government is targeting a 4% growth for the agri-sector from 2005 to 2020. The trend is increased participation from corporate for contract farming, direct sourcing and creating agri-linkages. Companies like Pepsico, Tata’s, ITC and HUL have taken the lead in terms of contract farming initiative.

India is the world’s second largest producer of food after China, but accounts for only 1.6% of international food trade. The government aims to increase this to 3% by 2013-14. According to a paper jointly prepared by FICCI and KPMG, the food processing industry (FPI) has been growing at an average rate of 7%, with the potential to achieve a double digit
growth. Fruit and vegetable processing, which currently accounts for only 2% of the total production, is likely to increase to 10% by 2010 and to 25% by 2025. In contrast, processing of agri-produce is around 40% in China, 30% in Thailand, 70% in Brazil and 80% in Malaysia.

Poor infrastructure for storage, marketing and distribution of food products in India is one of the key reasons for low processing levels. It is estimated that, approximately, 25 to 40% of agri-produce is lost post harvest season. Poor infrastructure and inadequate supply chains are the major reasons for this. It is estimated that by 2012, India’s marketable surplus is set to increase by 350 mtpa to 870 mtpa. 40% of the incremental production amounting to about 150 mtpa would be accounted for by perishables like fruits and vegetables.

The transformation of the Indian agricultural sector and the FPI coincides with the growth of organized retailing. An efficient supply chain is an integral part of the overall strategy of all the players in the agri-business. The food supply chain in India today is extremely fragmented with the existence of a large number of intermediaries and the lack of economies of scale. The main constraint is the logistical vacuum prevalent today, particularly in respect of the cold chain. India’s estimated cold storage capacity of 19.5 mt is less than 15% of the annual horticulture production and is dominated by potatoes (80% of capacity). The rising focus on horticulture, large scale corporate participation and the advent of mega food parks (30 such parks are coming up across the country) will open up new potential for cold chain logistics in the country. These food parks will span two/three districts in each location and each park will have a cold storage facility, apart from facilities for sorting, grading, food processing, packaging and quality control among others.

Steel and Cement

The development of adequate infrastructure is a critical pre-requisite for sustaining the growth momentum and to ensure the inclusiveness of the growth process. Not surprisingly, massive investments in infrastructure like railways, roads and highways, ports, airports, industrial corridors, SEZs, housing are on the anvil, warranting substantial increase in the production and distribution of two major inputs, namely, steel and cement. The cement industry in India, being the second largest in the world, next to China, produces about 170 mtpa. The Cement Manufacturing Association (CMA) has projected an additional incremental capacity of 110 mtpa in the next 3 to 4 years. Similarly, according to the National Steel Policy, steel production is targeted at 110 mtpa by 2019-20 with a CAGR of 7.3%. The present steel consumption per capita per annum is about 30 kg in India, compared to 150 kg in the world and 350 kg in the developed world. With massive expansion plans of the existing integrated steel plants and the emergence of green field steel plants, the national production of steel is expected to reach 80 mtpa by 2011-12. Such growth necessitates very efficient transportation, storage and distribution systems.

Automobile Hub

According to the “Automotive Mission Plan”, as enunciated by the Government of India for 2006-16, India is to emerge as the destination of choice of the world for design and manufacture of automobile and auto components with output reaching a level of US$ 145 billion, accounting for more than 10% of the GDP, and providing additional employment to 25
million people by 2016. India with its huge and expanding domestic market, a stable economy, competitive and competent labour and strategic location in the Asia Pacific Region, are attracting the global auto majors to set up their plants in India.

Besides being the second largest manufacturer of 2-wheelers, India is emerging as one of the world’s fastest growing passenger car markets. The industry produces about 13 lakh passenger cars, 5 lakh commercial vehicles, 84 lakh two-wheelers and about 9 lakh tractors per year. The automobile industry achieved a turnover of US$ 28 billion, while the auto component industry reached a turnover of US$ 10 billion. The Indian tyre industry, which is an integral part of the automotive industry, reached a turnover of US$ 3 billion.

According to UNIDO’s *International Year Book of Industrial Statistic 2008*, India presently occupies the 12th position in the global list of top 15 auto makers. Heading the list is Japan followed by the US and Germany. India has been placed fourth among the leading developing countries in automobile production, topping the list in the category is Mexico, followed by Korea and Iran.

It can be seen that the auto industry has grown in clusters of interconnected companies. The major clusters are in and around Manesar in the north, Pune, Nasik and Gujarat in the west, Bangalore and Chennai in the south, Jamshedpur and Kolkata in the east and Indore in central India. During the last 5 years, production of all categories of vehicles has grown at a rate of 16% per annum. The auto component sector has also shown a steady upward growth of 29% per annum. The turnover of the fast growing auto component industry, comprising around 500 firms in the organized sector and more than 10,000 firms in the small and non-organised sector, grew from US$ 3 billion in 1997-98 to 15 billion US$ in 2006-07, bearing testimony to the international recognition the sector has received in respect of the quality of products produced. According to the automotive mission plan 2006, the passenger car market, which was about 1.2 million in 2006-07, is expected to cross the 3 million mark by 2016.

Automobile industry is highly logistic-intensive based on the “Just in Time (JIT)” principle. Timely supply of the large number of components by various vendors to the Original Equipment Manufacturers (OEMs) to keep the inventory cost at the lowest possible level, warrant a very efficient supply chain and logistics arrangement. In an extremely competitive global automotive market, it is imperative to have a world class logistics system, if India has to emerge as an automobile hub in future.

**Logistics Industry**

Logistics in the economy has two dimensions. Logistics management in manufacturing and distribution organizations, and logistics organizations providing services to the manufacturing and distribution companies. Though the dimensions are two-fold, the trend is towards progressive outsourcing of logistical activities to a “third party logistics provider” (3PL’s), who have the ‘core competence’ to provide customized services tailored to the requirement of a specific client. Today, third party logistics includes any form of
externalization of logistics activities previously performed “in house” with the objective of not only providing cost efficiency but also to act as a strategic tool for creating competitive advantage for the client through increased service and flexibility. The driving force of modern day logistics has a more strategic thrust – to increase market coverage, improve the level of service or increase flexibility towards the changing requirement of customers. USP of modern logistics is typified in 3Vs – velocity, i.e., the speed at which transportation is carried out to conform to the JIT principle, continuous visibility with the help of the information and communication technology and, finally, value both in terms of cost saving and value additions.

Logistics is a major economic activity across the world. It is now a truism that by leveraging logistics, the competitiveness of an economy can be maximized in the global market. The total size of the global logistics market is currently valued at about 3.5 trillion US$ with a growth rate of about 7.5%. The current size of the Indian logistics industry is about 100 billion US$, estimated to grow to 125 billion US$ in next 3 to 4 years. It is estimated that whereas in the developed world the logistics costs on an average account for 8-9% of the final cost of the finished product, in the developing world, due to greater deficiencies in the logistics system, these costs are in the range of 15 to 25% of the final cost of the product. In India, the logistics costs are very high relative to the GDP accounting for almost 13%. The reasons are mainly two-fold: lack of proper infrastructure particularly in domain of the transport and distribution sectors, and very low penetration of 3PLs in the logistics industry.

As logistics do not operate in vacuum, it can hardly be overemphasized that availability of adequate and efficient transport infrastructure is a sine qua non for performance of efficient and cost effective logistics. Needless to say, transportation constitutes bulk of the logistics cost. In the railway sector, construction of the Dedicated Freight Corridors (DFC), connecting the eastern and western quadrilaterals and future of development of DFC for other legs of the quadrilateral and diagonals of the IR network will usher in a ‘new age’ in freight transportation in terms of improved transit, assured availability of rolling stock, reliability of service and, most importantly, reduction in unit cost of transportation.

With an extensive road network of 3.3 million kms, the second largest in the world, roads in India carry about 60 to 65% of the freight traffic. However, highways and expressways constitute about 66000 km (2% of all roads), but carry about 40% of the road traffic. Given the large volume of traffic moving on the golden quadrilaterals and diagonals connecting the four metros, an ambitious National Highway Development Programme (NHDP) has been launched involving a total investment of Rs. 220000 crores upto 2012 for four laning/six laning of golden quadrilateral and NS and EW corridors, besides development of 1000 km of express ways, predominantly through the PPP route.

The Port Sector is also witnessing spectacular growth in throughput over the last few years. Indian Ports handled about 636 million tonnes of cargo in 2006-07, which is estimated to reach 1 billion tonnes by the end of the Eleventh Plan and 2 billion tonnes by the end of Twelfth Plan. Capacity utilization at all the major ports has already reached near saturation levels, warranting massive investment for capacity augmentation to cater efficiently to the burgeoning traffic demand. A comprehensive National Maritime Development
Programme (NMDP) has been formulated to infuse investment and efficiency through public private partnership models. Emergence of a number of greenfield ports in private sector, which are on the anvil, will create substantial port capacity in the country in the years to come.

Growth of multimodal transport and containerization revolutionized the world maritime trade since mid 60’s by providing seamless door to door movement of cargo in a most reliable and cost-effective manner. Cargo Unitization by way of containerization is now accepted as the most optimal mode for transportation logistics resulting in quantum growth in containerized movement across the world. Though in India, containerized cargo represents only 30% of the external trade, and hardly 50-60% of the general cargo compared to 75-80% in the developed countries, Indian Ports are witnessing a robust growth in excess of 15% in this sector achieving a throughput of 6 million TEUs in 2006-07. It is estimated that the container throughput will be more than double at 14 million TEUs by 2011-12. This will not only necessitate creation of additional capacity in Indian Ports but also deepening of drafts to receive larger mainline vessels of 8000-10000 TEUs capacity. Lack of adequate hinterland connectivity to facilitate inland penetration of containerized traffic (presently, it is limited to only 25%) will also impede this growth. Creation of dedicated freight corridors by IR and the port connectivity project of both road and rail will provide the wherewithal far faster and seamless penetration of container traffic to the hinterland. Liberalisation of operation of containers on IR by throwing open this sector to private operators has not only created the necessary competitive environment, but also investment in this sector by way of rolling stock and terminals.

Taking note of the varied developments, as discussed earlier, Indian Railways with a view to integrating rail transport with the total supply chain, intends to develop multi-commodity, multimodal logistics parks through the PPP route along the DFCs and at strategic locations for capturing containerized as well as bulk/break bulk cargo that would establish an integrated logistics chain for augmenting its modal share. Intermodality is the hallmark of these logistics parks providing a wide array of cost-effective facilities and services like intermodal transfer, commodity specific warehousing and distribution facilities and value addition logistical services supported by information and financial systems. A logistics park cannot function in isolation as a stand-alone unit. There should be a chain of parks closely coordinating with each other under the “hub & spoke” concept to facilitate seamless movement of cargo with the help of the logistics service providers who will operate from these parks. And IR, with its wide network, is the most suitable organization to promote logistics parks at various strategic locations.

Conclusion

There is thus imperative need for effective qualitative enhancements in the logistics space in the country. As discussed earlier, Logistics costs in India are as high as about 13% of its total GDP. This is much higher than the benchmark of 8-9% in the developed economies. Thus, there is an in-built structural opportunity, not only by way of lowering the total spend on logistics activities, but also for the growth of the logistics services industry in the country.
through qualitative enhancement and seamless integration of various components of logistics activities. With margins under severe pressure in the industry, there is need to tighten the noose at all ends. Cost reduction and reliability of services are the two main objectives of modern day logistics. In the face of the melt down of the economy and growing competition, it is all the more crucial that necessary infrastructure is put in place and policies formulated to give a boost to the logistics industry in the country.

References


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It is common sense to take a method & try it.
If it fails admit it frankly & try another.
But above all try something.

– Franklin D. Roosevelt