

IMPACT OF TECHNOLOGY CONVERGENCE ON GLOBAL ECONOMY

N.S. Bisht
Rakesh Belwal

THE world of today has transformed itself into a globalised village in which cultures have fused, borders have disappeared and the markets have become indistinguishable from each other. Convergence of various technologies has led to paradigm shift. This process has also affected the global economy.

Scores of overt changes in the globalisation process in the past two decades give it a distinct feature. Today things like knowledge and computer technology- widely traded in the global market- are extremely mobile.

A technology driven global economy is synonymous with profound changes in industry and firm structure, emergence of the online economy, the mounting value of knowledge, low inflation and rapid social changes. This has also promoted technological advancement to play the pivotal role in the economic growth strategies of the developed, developing and underdeveloped economies. Notwithstanding the fast proliferation of the technology, these economies differ in application life cycle stages. The president of the World Bank stresses upon the apprehension- " There must be a level playing field....."

Resultingly, the organisations worldwide have generated more goods and services with less effort and at lower cost. Strategic software applications are being employed by organisations to streamline complex business processes. India's competitiveness in the global market could be supplemented through the use of the technology in question in the area of cotton, sugar and automotive etc.

Over the past three decades, the globalisation of the economy has been hastened by the WB, IMF and TNCs. This has pressurised the governments to minimise the bottlenecks. While the richest 20% of the world's population receive 83% of the world income, the poorest 60% receive just 5.6%! The need of the hour is to ensure that all global citizens find democratic representation in the formulation, implementation and evaluation of all global, social and economic policies of the WTO, IMF and WB. As an effective trouble shooting exercise the arguments advanced by a few should be resolved and the feasible suggestions carried out in earnest.

Instead of finding faults with the technology, the opportunity should be grabbed with both hands for the formation of an egalitarian society. Let us resist from putting up roadblocks, else, history will repeat itself either as tragedy or as farce.

The present world is no doubt going to become a globalised village in which the cultures are merging, borders are blurring and markets are becoming more and more like each other everyday.

In all its manifestations, globalisation has emerged as a symbol of a powerful force unifying the world at large by the convergence of various technologies. While it has raised living standards across some countries at one end, it has opened a continuous stream of benefits and opportunities on the other. The economies of the world, more appropriate to say "Global Economy", have been vastly affected by the globalisation that has opened up newer vistas for governments, businesses and societies to join the bandwagon and adapt to the change. Consequently, it has generated a concern for the governments and businesses to work closer together to design the multilateral rules for the world-wide marketplace which will be increasingly necessary for the smooth functioning and optimum management of globalisation.

Rapid advances in the technologies have worked as the catalyst in the process of globalisation. Though the process of globalisation existed in its nascent state for quite a long time, but there have been many changes in the globalisation process in the last two decades that makes it distinct from earlier existences. Rather than commodities or other products- information and capital have become the major thing to be traded in today's global market. Technological changes now a days allow capital to move almost instantaneously. Earlier products and capital were more rooted to a place. Today, many of the things traded and produced in the global market, such as knowledge and computer technology, are extremely mobile or rootless. All this has been made available by a vast network of satellites orbiting at twenty-two thousand miles in space, under-seas fibre optic cables, wired and wireless networks, cellular phones, palmtop and laptop wireless computers etc. Thanks to this electronic nerve system which spans the globe.

The global knowledge economy, i.e. a technology driven global economy, manifests itself in many different ways, such as profound changes in industry and firm structure, the emergence of the online economy, the rising value of knowledge, low inflation and rapid social change. In all developed economies, industry structure and the activities are changing rapidly. Output and employment in knowledge-based and person-based service industries are growing rapidly, and these are supplanting traditional goods industries, which are growing slowly. The **online economy** is changing the pattern of consumer buying and of goods and services production and delivery; it has created new industries based on products and services specially designed to exploit these opportunities. The value of knowledge has increased dramatically with the emergence of multimedia markets and the increased role of knowledge-based goods and services. For many companies, the value of intangible assets is now a much more important component of net worth than the value of physical assets. **Low inflation** has emerged as a general structural feature of the global knowledge economy. Several factors - falling prices for computing and communication products, global competition in both goods and service industries, the growing impact of technological change on service industries and the reduced role of trade unions - have ushered in an era of global low inflation. Rapid technological and structural change is also generating a **massive social change** in most developed economies. In many countries, the high unemployment and/or increasing inequality in earnings exacerbate this.

The global economy has no doubt, got the privilege of boosting itself up with the advances and proliferation of the technologies across various borders. Over the past few years, the US economy has grown at an exceptional rate. The gross domestic product (GDP) has risen an average 4% per annum over the last five years, with the rate reaching 4.2%, 4.3%, respectively, for the past two years (ended December 1999). Policies to promote technological advance are playing a significant role in the economic growth strategies of most mature and emerging economies. Long-term studies show that advances in technology have been responsible for as much as one half of economic growth in the United States over the past 50 years, through improvements in capital and labor productivity, and the creation of new products, services, and systems. In other countries, the contribution of technology to economic growth has been even greater. For France, technology is estimated to have accounted for 76 percent of economic growth, for Germany, 78 percent, for the United Kingdom, 73 percent; and for Japan, 55 percent. In case of India, though the transition has

been there from the underdeveloped economy to the developing economy in the past 50 years, yet the average growth rate which it managed to secure was at a meagre about 4%. Moreover, the effect of growth has not been uniformly distributed as is evident with the estimated number of poor comprising more than one third of the population.

Another way of its impact on the global economy is in terms of the developed, developing and the underdeveloped economies. Though the proliferation of the technology has been fast enough in the modern age, yet these economies differ in its application life cycle stages. While the developed countries are the most advantaged, the underdeveloped are in pitiable conditions leaving the developing economies in between. Most of the countries are such that they can not even embrace the new technologies knocking at their door due to the unavailability of funds, infrastructure and the required skills to implement. Others are suspicious about its effectiveness to make them competitive in the global market, considering it a risky proposition. Mr. James D Wolfenson, President, World Bank also supports this apprehension by saying that " There must be a level playing field, followed by a feeling of competitiveness.... There must be a social programme to help small scale and medium scale units compete with MNCs" during his recent visit to Lucknow. Though he further asserted that globalisation is necessary with the inputs of social and community participation for the development of a country and opposing the globalisation would lead to isolation.

It is true that with the convergence of the technologies and the resulting globalisation, organisations have generated more goods and services with less effort and at lower costs - that is, they have become more productive. For instance, average productivity per manufacturing hour worked, advanced more than 5% in each of the last five years with the increasingly effective use of two important growth sectors: outsourcing and technology. The effective use of technology has become critical to businesses' growth, sustainability and success. Today, organisations are deploying strategic software applications to streamline complex business processes. ERP, CRM, email and other applications are enabling organisations to reduce costs, improve productivity and enhance customer service - even improve the flow and quality of their products to the marketplace, increase market share and, ultimately, stimulate earnings. In short, technology has enabled organisations to grow faster, yet more productively - enabling significant economic growth with nominal inflation.

Today nations recognize that investment capital flows around the world daily in search of the greatest returns. As such, strategies for sustained economic growth for both mature and emerging economies generally focus on two complementary goals. First, build competitive domestic industries and, second, create conditions that will attract investment, technology, and business activity from around the world to a nation's shores. The possibilities of India's gaining advantage in some areas can not be completely ruled out.

The use of technology could essentially be a supportive factor for India's competitiveness in the global market in many areas. For example, If we look at the global textile market, India still continues to be the lowest producer of cotton per hectare in the world. This despite having the world's largest cultivation area of nearly 90 million hectare, for instance India produces 280 kg per hectare compared to China's 600 kg per hectare. Keeping this in view, the government has launched the Cotton Technology Mission to improve productivity and quality under the National Textile Policy 2000 to make labour intensive India a global power after the scrapping of Multifibre Agreement's quota regime by using the best available technology.

On the similar footings, the global market bodes well for the future of sugar industry. Equipped with the 18 million tonnes of capacity, the Indian sugar industry is the country's second largest agro-processing industry with the total turnover of about US \$ 5000 million. Globally, India is the largest sugar producer in 7 out of 10 years. The cost effective Indian sugar industry with the world's second lowest field cost could be a star industry with sustained competitive ability in the global scenario.

With the onslaught of globalisation, the hitherto dormant auto majors for the past few decades have waken themselves up to the competition from the emerging players and have now established themselves here, after the opening up of the economy. Every segment of the automobile industry, be it scooters, bikes, cars, jeeps or trucks, is showing positive signs of growth by saving a considerable amount in time, energy and most importantly in money spent on enforcing standardised norms. These coupled with the other benefits like outsourcing- the practice started by Maruti in early nineties in India, are on the way to make these Indian organisations competitive over the period of time. With the convergence of technology, better products are being availed and growing concerns are being expressed about cleaner and greener technologies. In this global wave of globalisation, the Rs 18,000 crore Indian auto component industry supported by the tariff protection for decades could improve its worst quality records and global market share – by working globally under the structural arrangement of tierisation. This arrangement of increased specialisation will reduce the cost of reengineering and redesigning, induce profitability, amid the greater economies of scale.

With the convergence of technology, economics etc. the businesses, governments and societies have found a common path auguring a bright future. However, the necessary legal and regulatory framework to enable society, business and consumers to take full advantage of these technologies is not yet in place. The development of this framework requires a new triangular partnership between businesses, governments and societies, since each has distinct roles to play. Keeping in view the fast-moving technology in this area, technical and regulatory standards and solutions can be primarily developed by the private sector. The governments can contribute in the establishment of a flexible and internationally consistent legislative and institutional framework, which encourages business to develop standards with technological innovation. The society is expected to keep a vigil on the movements and to extend its helping hand towards the betterment and sustainable development of its people.

Over the past 30 years the globalisation of the economy – led by the World Bank, the International Monetary Fund and Transnational Corporations – has proceeded at a quickening pace. These institutions have pressured governments to remove barriers to the cross-border flow of money and products. Also, advances in telecommunications and computer technology have made it possible for enormous amount of finance capital to ply around the world, 24 hours a day, searching for the highest rate of interest. And in the wake of this convergence, power is being realigned and wealth redefined. This globalisation of market forces has greatly increased the inequality in the world. Just 150 years ago there was not great inequality between the standards of living of people in the global north and those in Africa, Asia and Latin America. But slavery, colonialism and an increasingly integrated world economy transferred wealth from the poor to the rich. Now the richest 20 percent of the world's population receives 83% of the world's income, while the poorest 60% of the world's people receive just 5.6% of the world's income. These two global trends – the realignment of power and the redefinition of wealth – again propelled by the convergence of technology and economics, will permeate life and work throughout the world, well into the 21st century.

This is indeed a distress signal. In this race towards globalisation, the economic condition of the most of the underdeveloped and developing countries is susceptible to a severe downfall due to the advantageous positions of the much stronger developed economies. There is a need to check and monitor the activities of these so called harbingers of change viz. the World Bank, IMF and the WTO. We need to ensure that all global citizens must be democratically represented in the formulation, implementation, and evaluation of all global social and economic policies of the WTO, the IMF, and the WB. We must work together to reform global trade rules, demand that corporations are accountable to peoples' needs, build strong and free labour and promote fair and environmentally sustainable alternatives. A check on the corporations is necessary to ensure that they are accountable to public needs, open to public scrutiny, providing living wage jobs, abiding by all environmental and labour regulations, and are subject to all laws governing them.

Debt is crushing most poor countries' ability to develop as they spend huge amounts of their resources in the repayment of debt, ignoring the needs of their populations. Structural adjustment is the tool promoted by the IMF and World Bank to keep countries on schedule with debt payments, with programs promoting export-led development at the expense of social needs. There is an international movement demanding that all debt be cancelled in the year 2000 in order for countries to prioritise health care, education, and real development. Countries must have the autonomy to pursue their own economic plans, including prioritising social needs over the needs of multinational corporations.

As trade becomes more 'free,' labour unions are still restricted from organising in most countries. The International Labour Organisation should have the same enforcement power as the WTO. The US should ratify ILO conventions and set an example in terms of enforcing workers' rights to organise and bargain collectively. As corporations increase their multinational strength, unions are working to build bridges across borders and organise globally. Activists can support their efforts and ensure that free labour is an essential component of any 'free trade' agreements. Plenty of the suggestions are being given by various key position holders and the scholars who have been actively monitoring this transformation and the evolution of the global economy. Some of the valuable suggestions and arguments given by the scholars to shape the global economy are presented here to be analysed in the light of current developments and are open for brainstorming:

Suggestions

- ∞ The United Nations must be the strongest multilateral body - not the WTO. The US must ratify all international conventions on social and political rights. Trade rules must comply with higher laws on human rights as well as economic and labour rights included in the United Nations Declaration of Human Rights. We should promote alternative trade agreements that include fair trade, debt cancellation, micro-credit, and local control over development policies.
- ∞ Global trade and investment should not be ends in themselves, but the instruments for achieving equitable and sustainable development, including protection for workers and the environment. Global trade agreements should not undermine the ability of each nation, state or local community to meet its citizens' social, environmental, cultural or economic needs. International development should not be export-driven, but rather should prioritise food security, sustainability, and democratic participation.
- ∞ Women make up half the world but hold less than 5% of positions of power in determining global economic policy, and own an estimated 1% of global property. Family survival around the world depends on the economic independence of women. Economic policies need to take into account women's important role in nutrition, education, and development. This includes access to family planning as well as education, credit, job training, policy decision-making, and other needs.
- ∞ Corporations have so heavily influenced global trade negotiations that they now have rights and representation greater than individual citizens and even governments. Corporations must be subject to the people's will; they should have to prove their worth to society or be dismantled.

Arguments

- ∞ Globalization of market forces creates greater inequality.
 - ∞ Economic growth will not solve the problems we face.
 - ∞ The real function of institutions such as the World Bank, the International Monetary Fund
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and transnational corporations is not to promote “development” but rather to integrate the ruling elite of third world countries into the global system of rewards and punishments.

- ✍ The comparative evidence from many countries shows that the free market policies promoted by the World Bank and IMF are disastrous.
- ✍ The World Bank and the IMF’s policy emphasis on expanding exports has been disastrous for the environment.
- ✍ The “free market” economic model being pushed on third world governments is not the one which industrial countries used to develop themselves.
- ✍ The system of “globalization-from-above” that is controlled by wealthy elite is being rejected by millions of people all over the world. However, “globalization-from-below” made up of grassroots alliances of human rights activists, trade unions, women’s organizations, environmental coalitions and farmers’ organizations is gaining popularity.

The above arguments are not against technology. However, the apple of discord is mainly the application part. It has been aptly put by **John M. Eger, Esquire**, Executive Director, International Center for Communications, San Diego State University that:

“For here’s a technology that knows no barriers, no national boundaries and does not recognise any of the artificial divisions between the different people and places of the world. Here is a technology that does not recognise color, creed, race, or nationality. It is a technology that is supranational, acultural, alingual, a technology of sight and sound, of binary digits that can indeed saturate the world. It is a technology that creates simply by providing the means - a flow of information and ideas - a force throughout the world that simply will not be stopped however we may resist its flow.”

To conclude, It would be worthwhile to say that - in the present global network of the technological advances, solitary confinement of businesses, governments and the societies seems to be a nightmare reflecting the wilderness of the prehistoric period. However, the revolution due to the convergence of technology and the economics of a global economy wakes one up realising that it is not a nightmare but the reality now -challenging the present entities to use its power for the betterment of the society. In a very simple way, the impact of technology convergence on the Global Economy has two aspects like the two faces of the coin. Over the period of time, it can be a boon to the society, businesses and the governments at one hand and on the other-a bane to the existence of these very entities. It is the establishment of the egalitarian society, that should be the end, governments and businesses are only the means for its establishment. The moment we reverse this relationship and divert the technological resources for other causes, no doubt, the global economy will cease to exist and the history will repeat itself in the form of solitary confinements of civilisations fighting with each other. Therefore, under these circumstances, the following quotation given by **Riel Miller**, *International Futures Programme*, seems to be the right approach:

“The world stands on the threshold of a tantalising opportunity – the possibility of a sustained long boom over the first decades of the next millennium. It is an opportunity we should not miss.”

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