



Confederation of Indian Industry

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MANUFACTURING MATTERS

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From The Chairman's Desk



Venu Srinivasan

Chairman,
CII National Manufacturing
Council

Industry has unequivocally supported Government's manufacturing thrust and expectantly awaits the implementation of the National Manufacturing Policy (NMP) which will usher in a highly investment-friendly regime with considerably lower compliance burden. However, the current dip in manufacturing growth has caused some concern in industry circles, especially since the Indian manufacturing sector has underperformed vis-à-vis developing economies.

The latest UNIDO report has recorded that India's manufacturing sector grew by 5.1% in the first quarter of 2011, compared to 11.5% for developing countries. This is an area of concern given the fact that India has positioned itself as a global manufacturing hub and the sector had recorded higher growth in most quarters of 2009 and 2010. Fortunately, the growth rate has slackened not because of any fundamental weaknesses in the sector but owing to rising input and output costs, fuelled by spiraling interest rates.

Nonetheless, in meeting these short-term challenges, both Government and industry should not lose sight of the avowed goal of enhancing the global competitiveness of the Indian manufacturing sector. Stepping up manufacturing exports will not only act as a counterweight to the growing import bill but also spur the domestic manufacturing units to move up the global value chain. Government has already underlined the imperative of geographical diversification of manufacturing exports, keeping in view promising markets in Asia, Africa, Latin America & Caribbean (LAC), among others.

The establishment of National Investment and Manufacturing Zones (NIMZs), as provided in the upcoming National Manufacturing Policy (NMP), will go a long way toward meeting these goals. The reforms initiated in this sector could also have a cascading effect on other sectors including agriculture. Long-term sustainability of manufacturing growth would indeed depend on the growth dynamics of the primary sector (which provides the raw materials) and the performance of the national economy as a whole. Modernisation of agriculture, for instance, could lead to a reallocation of surplus labour from agriculture to industry, especially in the small and medium enterprises (SMEs) in the rural hinterland. Higher productivity resulting in higher income and employment generation is an equally desirable outcome of the reforms.


The manufacturing sector's 'go for growth' approach also requires a sharper 'go for green' focus given the environmental considerations. Indian industry has amply demonstrated its willingness to adopt green practices across the board including the manufacturing spectrum. The First Green Manufacturing Summit, organised by CII in New Delhi in March this year, underlined the challenges and opportunities that beckon the manufacturing sector in the green domain. This edition of 'Manufacturing Matters' brings forth the key issues that underpin the shift toward green manufacturing. It is important that the policies are geared to enable the manufacturing firms to advantage of the opportunities arising from a green economy. It is



equally important that the firms align their skills base and knowledge systems with green manufacturing.

This edition has also touched upon an important area, namely, logistics. With product lifecycles shortening and the variety of manufactured products in the market also increasing several fold, the logistics industry is presented with great challenges in meeting market needs. The growth of the logistics industry in turn is predicated to the growth of the country's transport infrastructure.

The capital goods sector has also been covered in this edition, keeping in view its critical role in the manufacturing growth.

'Manufacturing Matters' has benefited greatly from the feedback and suggestions made by our esteemed readers. I look forward to your continued support to develop this journal into a definitive communication medium for the manufacturing sector in India. 

New manufacturing policy to boost the sector

A high-level committee on manufacturing headed by Prime Minister, Dr Manmohan Singh, has cleared the draft of the policy that aims to increase the share of manufacturing in the country's GDP to 25% by 2025 from the present 16%. The policy has proposed establishing National Investment and Manufacturing Zones (NIMZs) that will be projected as mega investment regions, equipped with world-class infrastructure. An official statement released by the Government reveals that Dr Singh has observed that the proposed measures will reduce the compliance burden on industry. The manufacturing policy emphasises on setting up a Manufacturing Industry Promotion Board in order to ensure coordination between Central and state governments. It also encourages Indian companies to develop indigenous technology through fiscal incentives and subsidies. **MM**



Auto components sector likely to face stiff headwinds: ICRA

Having cemented a strong double-digit growth over the last two years, the auto components industry is likely to face strong headwinds in 2011-12 due to soaring commodity prices, fuel costs and interest rates, ICRA said. While the industry has made big strides over the last decade towards improving internal efficiency and thereby partially off-setting input cost pressures, efficiency gains alone may be insufficient going forward for players to use as a lever to combat cost headwinds, the rating agency said. It added that industry players will need to intensify their focus on deploying more cost effective vehicle systems in their new product development and existing model refurbishment programmes. On margin pressures, ICRA said that measures required to be taken by the industry to meet challenges on an ongoing basis may need to be directed in areas related to design optimisation and frugal engineering, where results become visible only over a relatively longer time horizon. This may require the industry players to incur greater investments. However, the longer-term benefits and resultant structural changes could alter the automotive design paradigm, change the cost drivers and provide greater value to customers, it said. **MM**

DIPP moots 100% FDI proposal for infra, defence

The Department for Industrial Policy and Promotion (DIPP) has proposed changes in the government procurement policy that could lead to 100% FDI in a limited manner for the defence sector. The DIPP has proposed that companies that are interested in participating in government bids will have to set up factories for manufacturing their equipment and machineries in India. The DIPP says 100% FDI will be allowed in such factories in infrastructure and defence sectors. Reports say that DIPP has sent their proposal to a committee of secretaries for comments. The significance of this proposal is that it would lead to 100% FDI in a limited manner in the defence sector. For instance, if India wants to buy fighter aircraft, the successful bidder for that tender will have to set up an integration facility in India and 100% FDI will be allowed in the integration facility. Also, the DIPP has said the integration facility can also be used as an export hub, however, with safeguards, so that defence equipment manufactured in India do not end up in unfriendly countries. **MM**

Fuel efficiency rating of automobiles by Sept

After initiating star labelling on electronics and appliances, Government is likely to notify bringing of the automobile sector under the purview of ratings based on fuel efficiency by September. According to senior official in the Bureau of Energy Efficiency (BEE) an announcement regarding the same is likely to be made soon. "BEE, Society of Indian Automobile Manufacturers (SIAM) and Ministry of Road Transport and Highways has reached a consensus. A formal announcement on the same (star rating) is likely to be made soon," BEE Director General, Mr Ajay Mathur, told the media. He said a notification will be issued by September this year. "To begin with, energy efficiency



ratings of vehicles will be kept voluntary for manufacturers but from April 2012 it will be made mandatory," Mr Mathur added. **MM**

Cost accounting rules for industry streamlined

The Ministry of Corporate Affairs (MCA) has done away with a 46-year system of prescribing sector-specific cost accounting record maintenance rules for 36 industrial segments. Instead, it has notified a common rule that outlines the broad principles companies need to follow. The practice of notifying such records will continue only for eight sectors where government control over pricing, production or distribution exists today. These regulated sectors like medicines, fertiliser, sugar, industrial alcohol, electricity, petroleum and telecommunications are the only areas where Government will continue to dictate the mode of cost account maintenance. The 36 sectors that will not have industry-specific rules now include cement, cosmetics and toiletries, engineering, plantation products and textiles. The new rule will be applicable to every company that has a networth exceeding Rs 5 crore or a turnover of at least Rs 20 crore. Companies whose equity or debt securities are listed or are in the process of listing on any stock exchange, whether in India or outside India, will also have to follow the common cost accounting rule, irrespective of turnover or networth. [MM](#)



Attrition in power sector on the rise

Faced with talent crunch and an increasing number of private players, the fast-growing Indian power sector is seeing higher attrition rate, especially in the public sector companies, say experts. "The attrition (in power sector) is at the managerial level and more so at senior managerial level," leading consultancy Deloitte Touche Tohmatsu India's Senior Director Mr Vedamoorthy Namasivayam was quoted saying in the media. "The increased investments by the private sector in this industry has resulted in increased demand for talent and, hence, the attrition from public sector entities," he noted. Going by estimates, manpower shortage in the power sector runs into thousands while attrition rate could be in high single digits. The contribution of private sector players towards capacity addition shot up to 20% in 2010 from just 11.6% in 2006. In the current five-year plan (2007-12), private entities are expected to account for nearly 30% of their total capacity addition. The power sector is expected to see a growth of at least 7%, if the Indian economy is to see around 9% annual growth. Further, the sector is anticipated to see investments of \$300-400 billion in the 12th five-year plan period (2012-17). [MM](#)

Core sectors reflect slow GDP growth

High commodity prices, slowdown in cash flow and higher cost of credit are affecting demand in major manufacturing sectors like automobiles, construction and housing and consumer durables which in turn has impacted core sector production, industry representatives said. They were apprehensive of the sluggishness continuing till at least the beginning of the festival season in October. That too would depend on factors including the progress of the monsoon and crop prospects, stabilisation of prices and interest rates. According to the provisional data, cement output in April contracted 1.1%, while coal and steel production rose by only 2.9% and 4.3%, respectively. In April 2010, cement had recorded a growth of 8.8% and steel had grown by 12.9%. Coal output, however, was down 2.9% in April 2010. The other three core industries – petroleum crude, petroleum refinery and electricity – put up a good performance but that was not enough to boost overall performance. Overall, core sectors' output registered a much slower growth in April at 5.2% compared with 7.5% a year ago. [MM](#)



Ministry seeks views on procurement policy

The Defence Ministry has invited suggestions from the Armed Forces and various departments and agencies that fall under it for amending the defence procurement policy (DPP) that governs defence purchases. The representatives of the Armed Forces are likely to meet ministry officials to put forth their suggestions. While the Indian Air Force (IAF) and the navy have already submitted their proposals, the army is expected to do it soon. IAF has suggested that stipulated indigenous content in case of the so-called "buy (Indian)" mode of procurement should be raised to 50% from 30% currently. Projects that come under the so-called "make" category should have a minimum 60% indigenous content on cost basis, at the production stage. "The goal of achieving self-reliance in defence equipment needs to be kept in mind," said the note, explaining the rationale behind the recommendation. IAF wants the defence ministry to increase the validity of the commercial offer sought in request for proposal (RFP) before bids are opened. The currently stipulated period is 18 months. IAF also recommends that vendors submit price quotes valid for the period from the 19th to the 30th month at the time of replying to RFP itself. [MM](#)

Coal ministry for overhaul of national distribution policy

The widening demand-supply gap and depleting production of Coal India Limited has compelled the coal ministry to overhaul the national coal distribution policy. If the ministry has its way then soon a new distribution policy would be in place to serve the comprehensive coal linkage needs of core and non-core sectors by introducing adequate flexibility in coal supply to meet the growing demands of these sectors and promote energy security. Union Coal Minister, Mr Sriprakash Jaiswal, has been quoted saying that the distribution policy, which was over three years old needed to be re-shaped as due to ever-growing demand of the mineral from the power sector, it has virtually become impossible to provide additional coal to other sectors. Due to the negative balance of coal, the Standing Committee on Linkage for steel and cement could not be convened for the past three years, he said. This was also the reason why CIL's policy for non- Standing Linkage Committee (Long-Term) category of consumers could also not be notified so far. **MM**

Manufacturing sector growth lower than world average

India's manufacturing sector growth during quarter ended March 31 this year stood at 5.1%, which is one-third of China's factory output of 15% and also lower than the world average of 6.5%, according to a UN body report. "...World manufacturing output grew by 6.5% as compared to the first quarter of 2010," United Nations Industrial Development Organisation (UNIDO) said in its report on 'World Manufacturing Production Quarter I, 2011'. The major contribution to such strong performance came from China --- its manufacturing output grew by 15%, it added. The report said manufacturing output of the group of newly industrialised countries increased by 6 per cent, with India's growth estimated at 5.1%, Mexico's growth at 7.4% and Turkey's at 13.8%. The growth rate of other developing countries, including least developed countries, was below 5 per cent, it said, adding that negative growth was observed in Egypt and Tunisia, where manufacturing output fell by 8.9% and 7.4%, respectively during the January-March period. **MM**

'India will be a net exporter of flat steel'



Despite enduring hiccups on land acquisition and environmental clearances, India is expected to become a net exporter of steel very soon. Experts say while there is a marginal declining trend in consumption, most of the big steel companies are increasing their flat product capacity which are expected to come on-stream starting this December. Incremental consumption has been declining in India on a month-on-month basis. To be sure, some of this is seasonal and a revival is expected, but incremental capacity that will come will outstrip

the growth in consumption. "The trade is already skewed towards exports. For April, while the volume of steel imported stood at 0.33 million tonne, exports were a healthy 0.32 million tonne," experts viewed, quoting government data. A similar trend was witnessed in March where imports preceded exports by a bare 0.01 million tonne. In the same period, domestic consumption dropped from 6.16 million tonne in March to 5.03 million tonne in April, or almost 18%. But compared with April 2010, consumption is up 2% and production 5%. **MM**

TN, AP, Kerala & Karnataka lagging in growth: CII

The growth rate of gross state domestic product (GSDP) of the four southern states has been slowing down in recent years and requires focused attention on creating physical infrastructure, time management in policy making and implementation, said the Confederation of Indian Industry. Confederation of Indian Industry-Southern Region (CII-SR) chairman Mr T.T. Ashok said: "Tamil Nadu and Andhra Pradesh registered a GSDP growth rate of 7.4% while for Kerala and Karnataka it was 8.1 percent and 8.5 percent, respectively. The national GDP growth average is 8.7% between 2005-10." He said though the four southern states registered impressive performance in various industrial sectors, they did not keep up their pace of growth. According to him, creating huge physical infrastructure, managing talent availability, time management in policy making and implementation, and building the capacity in industry to move up in the value chain were some of the challenges that were to be addressed to sustain south India's growth momentum. **MM**



It is a myth that there is an inescapable trade-off between environmental sustainability and economic progress. Green manufacturing provides significant opportunities for investment, growth and jobs

Over the last two years, the concept of a “green economy” has moved into the mainstream of policy discourse. Political bosses and policy makers increasingly speak about the green economy. The recent interest in a green economy has been intensified by widespread disillusionment with the prevailing economic paradigm, emanating from the many concurrent and recent crises. At the same time, increasing evidence is pointing to an alternative paradigm, in which increased wealth does not lead to growing environmental risks, ecological scarcities and social disparities.

Transitioning to a green economy has sound economic and social justification. There is a strong case for governments as well as the private sector to engage in this economic transformation. For governments, this transition would involve leveling the playing field for greener products by phasing out harmful subsidies, reforming policies and incentives,

strengthening market infrastructure, introducing new market-based mechanisms, redirecting public investment, and greening public procurement. For the private sector, this transition would involve responding to these policy reforms and incentives through increased financing and investment, as well as building skills and innovation capacities to take advantage of opportunities arising from a green economy.

Manufacturing Map

Manufacturing has been a major driver of overall economic growth of developing countries in the last 15 years. The United Nations Environment Programme (UNEP) 2011 report says that during this period, developing countries’ GDP nearly doubled. During the 20th century, the growth of manufacturing was phenomenal. According to various reports, world steel production, for instance, rose by a factor of six between 1950 and 2000 to over 1.2 billion metric tons. Aluminium production

doubled between 1980 and 2005.

However, the growth of industrial production has also been accompanied by increasing pressure on the environment. The UNEP report configured that manufacturing has a large material impact on economy and the environment. Manufacturing is responsible for around 35% of the global electricity use, over 20% of CO₂ emissions and over a quarter of primary resource extraction. Along with extractive industries and construction, manufacturing currently accounts for 23% of global employment. It also accounts for up to 17% of air pollution-related health damages. Gross air pollution damages are equivalent to between 1% and 5% of global GDP. This cost of air pollution-control policies is projected to increase in a business-as-usual scenario by a factor of three by 2030.

The greening of manufacturing is essential to any effort to decouple environmental pressure from economic growth. Green manufacturing differs from conventional manufactur-

ing in that it aims to reduce the amount of natural resources needed to produce finished goods through more energy, and materials-efficient manufacturing processes that also reduce the negative externalities associated with waste and pollution.

In a recent survey of The Boston Consulting Group (BCG), a global management consulting firm, of consumers in both developed and developing countries, more than half the respondents indicated their preference for Green products, especially in food and consumer durables. Many consumers also indicated their growing willingness to pay a premium for Green items.

However, the survey also revealed that there is still a huge gap in consumer awareness that Green companies must strive to bridge. Successful implementation of Green manufacturing requires going beyond small standalone initiatives, and adopting an integrated three-step framework: (a) planning for Green as a core part of business strategy, (b) executing Green initiatives across the value chain by shifting towards Green energy, Green products and Green processes and (c) communicating and promoting Green initiatives and their benefits to all stakeholders.

A global survey by BCG reveals that as many as 92% of the companies surveyed are engaged in Green initiatives. Manufacturing companies that adopt Green practices benefit not only through long-term cost savings, but equally importantly, from brand enhancement with customers, better regulatory traction, greater ability to attract talent and higher investor interest. However, these benefits require a long-term commitment and making tradeoffs against short term objectives, as the economics of Green manufacturing is still evolving and not well understood as yet.

The motivation for adopting Green has varied across sectors. Some take it up owing to regulatory compulsions (example: power), while others see it as an opportunity to build a stronger brand with consumers (example: retail). Steel manufacturers have adopted Green initiatives to stabilise rising energy costs, while automobile companies have seen it as an opportunity to launch electric and hybrid cars to meet increasingly stringent emission regulations. The impact of Green initiatives also varies by the industry sector. For example, Green initiatives in the power sector have the maximum impact on reducing CO2

emissions followed by transportation and then the industrial sector.

Green Investment

In its Vision 2050 report, the World Business Council for Sustainable Development describes a world in which the manufacturing industries follow life-cycle approaches that enable dematerialisation and expanded service systems. In a sustainable world of about 9 billion people by 2050, a complete range of new products and services is offered, based on high longevity, low embodied water, as well as low-energy and material content. This transition will not happen overnight, and it will require substantial investment. A major challenge is one of transition in industrial production, to become less carbon and material intensive while at the same time preserving jobs or reinvesting in completely new employment opportunities. This is particularly relevant for developing and emerging economies

and water resources display the importance of having appropriate regulations and pricing in place. The area of human resources and employment highlights the importance of carefully considering direct and indirect impacts.

Indian Green Agenda

India's rapid economic and industrial growth, coupled with urbanisation, has come at the high cost of increasing GHG emissions, rising demand for scarce resources like water and increasing waste generation, particularly from urban centres. Today, India is the fourth largest economy in PPP terms and the fifth largest GHG emitter in the world. During the 18 year period between 1990 and 2008, India's CO2 emissions increased more than 150%, placing it just behind China.

According to CII-BCG report, India generates close to 4 million tonnes of hazardous waste from industrial and biomedical

Mr Anand Sharma,
Minister of Commerce and Industry, Government of India

"The dominance of the West and Europe in the manufacturing sector in the last century is because they could use better technology and move from conventional production method to value added production system. It had multiplier effect on innovation and employment generation. The concept of green manufacturing is topical. Today, more than half of industrial production is happening in developing countries, so we have to be the leaders in the environmental friendly technologies and manufacturing process to become the leaders in manufacturing sector." MM



that currently invest heavily in conventional production infrastructure. Both at the country and industry sector level, improved resource-efficiency and decoupling offers the opportunity of competitive advantage and a sustainable future.

However, making the investment decision to pursue green manufacturing opportunities requires careful consideration of real net benefits and longer term consequences of decisions made today. This includes consideration of research, development and design options that enable users and consumers to move away from the throwaway consumption paradigm. Some technology innovations hold potential for drastic gains in resource efficiency, while others may bring more costs than benefits. The cases of energy

sources. Apart from hazardous industrial waste and effluents which cause water and land pollution, e-waste is also becoming a major area of concern for India. Estimates suggest that only 3% of e-waste makes it to authorised recycling facilities, with the rest either going into landfills or being processed at informal recycling yards.

The CII-BCG report suggests that to overcome these challenges, or at the very least to minimise their impact, the Indian manufacturing sector will need to take concerted action on all three areas, (i) Green energy (ii) Green products and (iii) Green processes in business operations.

Green Energy

Over the past few years, both Government and industry have recognised the

challenges posed to the country's environment by industrial growth and rapid urbanisation. While considerable progress has been made, India has still some way to go. Close to 75% of India's energy generation comes from coal and natural gas. In efforts to provide electricity to 40% of households that do not yet have it, and to sustain its industrial growth, India can expect a six to eight-fold growth in energy production over the next 25 years. Projections suggest that the share of coal in the energy mix is unlikely to go down substantially in the next 20 years. This calls for ensuring the implementation of the aggressive targets set for Green fuels and strengthening the regulatory framework for improving the energy efficiency.

Green Products

Indian companies and consumers have begun accepting Green products. Companies are offering their customers a growing range of Green products, ranging from organic food products, to electric cars and solar heaters. Lighting and air-conditioning companies are introducing new-age products with energy efficiency as the key differentiating lever. Explicit energy ratings for electric appliances are a new reality and consumers are not only accepting

these, but also incorporating them in their buying behaviour. Consumer consciousness about Green products is expected to grow further and companies are quickly identifying this avenue as a route to achieving competitive advantage.

While some companies have made efforts to introduce Green products into the market, the efforts are still at an early stage and have to be systematically expanded to cover more of the manufacturing sector. Manufacturing companies should evaluate their product portfolio in terms of the energy intensity of their manufacture and in-life use, recyclability and waste generation. The CII-BCG report says various industry associations can play an active role on educating both their member companies and consumers, and bringing together the different stakeholders to set standards which conform to international Green norms and are customised for Indian environment.

Green Processes

The CII-BCG report says that Indian manufacturing is catching up with the long term benefits of Green processes to improve corporate brands, reduce costs and achieve compliance at the same time. Energy intensive companies are implement-

ing lean processes to minimise waste and enhance energy efficiency. However, there is still a long way to go in many sectors.

In a bid to promote energy efficiency and reduce industrial carbon emission levels, Government is evolving a PAT (Perform, Achieve and Trade) regime designed by the National Mission for Energy Efficiency under the Prime Minister's National Action Plan for Climate Change. Under the scheme, The Bureau of Energy Efficiency (BEE) would set energy efficiency targets for industrial units and issue them energy saving certificates

It is also important to address water consumption and waste generation as big levers of Green. It is possible to reduce water consumption by better control of processes, recycling water and embracing new water-saving technologies. For example, in the metal businesses which use plating as a process, water consumption is a direct function of the number of tanks used. Therefore, a shift to plating technologies / processes with fewer tanks can save as much as 40-50% of water consumption in just a few years. Manufacturing plants can minimise waste generation by redesigning their press tools and machines to reduce the scrap they produce, and by improving scrap collection and recycling.

Industry Speak



Mr Hari S Bhartia,
Immediate Past President, Confederation of Indian Industry

"Sustainability of Indian growth story is depends on development of manufacturing sector. Green and sustainability is no more just an agenda for having a good reputation. It is a question of cost, sustainability and quality. It is a matter of survival. Business houses, corporate leader, industry captains have to look at the green concept from an efficiency point of view and should make it as a part of their core business Strategy." MM

Mr Venu Srinivasan,
Chairman, CII National Manufacturing Council

"With increasing global warming, green is becoming important strategy in the manufacturing sector; sustainability in green manufacturing is a competitive need. India is largely a net importer of energy and it will continue to remain like that. So it is vital for the country to adopt green manufacturing programme. As investments in safety, energy reduction, pollution and quality control have shown tremendous cost reduction, the investments in green manufacturing will also have its own benefits " MM



Conclusion

Moving towards a green manufacturing has the potential to achieve sustainable development and eradicate poverty on an unprecedented scale, with speed and effectiveness. A green manufacturing economy substitutes clean energy and low carbon technologies for fossil fuels, which addresses climate change, creates jobs, and reduces import dependencies. New technologies promoting energy and resource efficiency provide growth opportunities in new directions, offsetting brown economy job losses.

However, there are many risks and challenges along the way. Moving towards a green economy will require leaders, civil society and leading businesses to collaboratively engage in this transition. It will require a sustained effort on the part of policy makers and their constituents to rethink and redefine traditional measures of wealth, prosperity and wellbeing. However, the biggest risk of all may be maintaining the status quo, and the biggest cost will be the opportunity lost of not engaging in a transition towards a green manufacturing economy. MM

Progressive Strategy

Manufacturing sector needs to receive the appropriate policy and price signals to make the green transition happen

The manufacturing sector can make a significant contribution in greening national economies by producing goods that are more resource-efficient and have lower environmental impacts over their lifecycles. This applies in particular to the highly resource intensive value chains such as that of metals and car manufacturing. But for the manufacturing industries to make this transition, they need to receive the appropriate policy and price signals.

Under certain conditions it also needs institutional support from governments in particular for ensuring that supportive investments in physical infrastructure and education to enable a transition that requires new systems and skills.

The past several decades have witnessed a major restructuring of the global economy, with the global manufacturing industry base shifting toward developing countries and emerging economies, and the developed countries becoming ever more service oriented. Globalisation through increased cross boundary trade and investment flows is driving this restructuring, along with technological and associated organisational changes. This transition process, driven by global factors of production and markets rather than local development factors, has resulted in significant capacity gaps in developing and transition economies in managing the structural transformation of their economy on a more sustainable basis.

The United Nations Environment Programme, 2011, report has recommended two key policy priorities for greening manufacturing: (i) the promotion of closed-cycle manufacturing and related life cycle approaches with supportive recovery and recycling infrastructure, and (ii) regulatory reform to enable factor efficiency improvements in energy use, for example through the introduction of co-generation and combined heat and power

(CHP) technologies and the feed-in of decentralised power generated by use of renewables. The latter needs to be supported by investment in smart grids and approaches such as feed-in tariffs and time-of day pricing

Closed-Cycle Manufacturing & Life Cycle Approaches

Efforts to promote resource efficiency at the product, production process and company level need to be complemented by resource-efficiency innovations at the industrial cluster and systems level. At the company level, this starts with approaches such as eco-design, life-cycle management and cleaner production. At the industry and systems level, this implies innovations such as the greening of supply chains and clustering of industries in a given economic zone to become a platform for resource efficiency through optimised resource flows between industries. The industrial parks of the future could be “eco-parks” to maximise industrial symbiosis and secure green jobs.

Policy Instruments For Green Manufacturing

The UNEP study has put forth the spectrum of instruments available to governmental institutions to shape the enabling environment for greening industry and manufacturing, which include (i) regulatory and control mechanisms, (ii) economic or market-based instruments and (iii) fiscal instruments and incentives; and (iv) voluntary action, information and capacity building.

Regulatory And Control Mechanisms



The major sources of significant quantities of emissions and effluents in manufacturing industries have traditionally been the initial targets for regulatory and control instruments. Legislation with clearly defined standards of technology and performance can drive green investment, encouraging industries to use natural resources more efficiently and create markets for green products and production. Regulatory requirements can build in cleaner technology standards in the licensing of new industrial operations.

Economic Or Market-Based Instruments


Economic instruments for pollution control and reducing other environmental pressures include charges and fees for non-compliance, liability payments as well as tradable permit systems targeting, for example, air pollution, water quality and land management. Instruments regulating the price have the advantage of ensuring that the marginal cost of abatement is equalised among all polluters. Charges can target emissions and products (at the level of manufacturing, use or disposal), as well as byproducts such as packaging and batteries.

Fiscal Instruments And Incentives

Fiscal policy, comprising public expenditure, subsidies and taxation, can provide powerful incentives that alter the basic cost-benefit calculation of producers and consumers, thus driving


Expert Speak

Prof Dr Ing Hans-Jorg Bullinger,
President Fraunhofer, Germany

"Manufactures have ambitions. However, sustainability is a big element in the manufacturing process so they have to take care of the resources. It is a well-known fact that there is an increase in the demand for resources so we have to have resource efficient production system and resource intense manufacturing process for better utilization of resources. The target should be minimal use of resources in the entire production cycle." 



Mr Dirk Pilat,
Head, Structural Policy Division Directorate for Science,
Technology and Industry, OECD

"When we look at growth we don't account environment as an input in the production process. We cannot go on like that. Actually, greening manufacturing is a business solution. India is in the initial stage of growing so it can avoid the mistakes done by the developed countries during their nascent stage of industrialisation. However, we all need to move together in tackling common global issues of climate change and resource scarcity. Green growth is an opportunity for developing more sustainable manufacturing industrial development." 

change in behavior from business-as-usual. Taxes are unrequited in the sense that the benefits provided by government to taxpayers in exchange are not necessarily in proportion to their payments. Tax exemptions can be made for specific products or industry sectors. Tax revenues can be earmarked for a specific purpose, which may or may not relate to the field of activity that was taxed in the first place. An example would be a tax on landfills or plastic bags, the revenues of which is used for waste management infrastructure or other purposes.

Voluntary Action, Information & Capacity Building

It has been viewed that in the case of "multiaspect" environmental problems, policy-makers should supplement instruments that address total amounts of pollution with instruments that address the way a certain product is used, when it is used, where it is used, etc. In these cases, regulatory and information instruments are often better suited than for example introducing taxes or credit trading systems. Information instruments can take a variety of forms, including product information, labeling and reporting.

India Agenda

The Government of India has to play a key role in the transformation into 'Green Manufacturing'. To promote Green energy, both the central and state Governments have launched many initiatives with significant budgetary support (example: Solar Mission). The promotion of Green technologies has been included in the draft strategy for the manufacturing sector prepared by the Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industry.

According to the CII-BCG Green Manufacturing report, there, however, has not been adequate attention given to financial, regulatory and policy support to promote Green products and Green processes in on-going business operations. For instance, an equivalent of ISI certification can be implemented as part of a holistic policy framework to govern Green products by giving 'Green' ratings based on criteria like product recyclability and biodegradability. These ratings have to be actively promoted and will provide a critical lever to companies to differentiate themselves, and also enable the consumers to make more informed choices.


In the area of Green processes, the current focus on one hand has been on improving

energy efficiency through energy audits which are basically voluntary and on the other, the recent strictness in the implementation of laws to check industrial pollution. The scope of these efforts can be widened and integrated into a 'Green Audit' which focuses on all three – energy, water and waste. This could be done through incentivising, through voluntary participation, or by mandating via an independent regulatory body.

Finally, the Government can speed up the adoption of many Green technologies by using levers like PPP models (e.g. such a model is proposed for development electric and hybrid transportation), creating a dedicated Green Fund to invest in emerging technologies, setting up Green science parks which promote collaboration between businesses, research institutions and universities and providing fiscal incentives for the early adopters.

Conclusion

Both central and state government needs to consider an appropriate policy mix of regulatory instruments and approaches to make the transition happen, mindful that basic physical processes and damaging impacts associated with pollution and unsustainable resource use are universal. As major point sources of pollution, the manufacturing industries have traditionally been easy targets of command-and-control regulations. In some cases these need reform, in others new ones are required to scale up transformation.

Command-and-control regulations need, however, to be better combined with market-based approaches, allowing appropriately structured markets to reflect the real price of energy and other resources and allowing manufacturing industries to innovate and compete on a fair basis. Governments will also need to consider ways of supporting the greening of manufacturing through institutional support and soft technology approaches, for example, education and training in areas such as cleaner production and considering smaller, supplier enterprises in particular. Institutional support can vary from the financial, ensuring the provision of green subsidies and loans, to the provision of infrastructure, ensuring appropriate systems for deposit refunding, waste recovery, recycling and distribution. Scaled-up investment in establishing eco-industrial parks can be a key building block in this, an area open for public-private partnership. 

Testing Limits of Growth

An assessment of what will it take for the domestic manufacturing growth to stay 2-3% higher than the GDP growth

Accelerating manufacturing growth is central to long-term sustainability of India's GDP growth and development goals. Hence, under the proposed National Manufacturing Policy (NMP), Government and industry will aim for manufacturing growth at 2-3% higher than the country's average GDP growth. Planning Commission member, Mr Arun Maira, recently said that greater cooperation between industry and policy makers will go a long way toward realising this goal.

Manufacturing thrust attains vital importance in the context of employment generation, expansion of industrial output including mining, self-sufficiency in strategic goods and inclusive growth. It is equally important from the standpoint of India becoming a major global manufacturing hub. However, the current growth trends have raised concerns over India's manufacturing growth. The 'World Manufacturing Production Quarter I, 2011' released by United Nations Industrial Development Organization (UNIDO) states that India's manufacturing growth during the quarter ended March 31, 2011 at 5.1% was just a third of China's factory output and a few notches below the world average of 6.5%.

So, what will it take for the domestic manufacturing growth to stay 2-3% higher than the GDP growth?

Rein in rates: Among the several pre-conditions for this, Confederation of Indian Industry (CII) has expressed its deep concern over the rising interest rates which are beginning to have a dampening impact on investment sentiment. CII President, Mr B Muthuraman, said recently, "Industry is already reeling under the impact of rising raw material costs and an increase in interest costs will be an added burden."

CII has recommended that the RBI moderate its interest rate hikes. High rates are seen to increase the operating cost of companies and make businesses postpone their investment plans. A dip in investments will adversely impact the overall growth momentum.

Control input costs: Rising commodity and raw material prices are seriously affecting the bottomlines of manufacturing firms. Interventions to ease the inputs costs will act as spurs for the sector.

Strengthen clusters: Mr Maira has pointed out that manufacturing has not been adding many jobs in India over the last few years. Whereas in China, manufacturing clusters

have given employment to many people. Industry clusters by definition are groups of inter-related industries that drive wealth creation in a region. They typically include the entire value chain of a broadly defined industry from suppliers to end products, and are interconnected by the flow of goods and services throughout this chain. They help improve resource efficiency, time management as well as bring in innovation in manufacturing practices.

Promote design, innovation and collaborative R&D: India is being viewed as an emerging destination for manufacturing design and innovation. Government and industry would be called upon to take a long-term view of the innovation imperative in this domain.





Product lifecycles are shortening and the timelines for obtaining exclusive benefits from new technologies have also shrunk. At the same time, some of the innovations and new technologies are likely to yield healthy returns only over the long term.

At the same time, however, India's manufacturing sector is showing signs of weaknesses too. Most recently, the appreciation of Indian Rupee has significantly reduced the competitiveness of many export-oriented industries in the country such as textiles and engineering. The fact is that some of the technologies in use today are the result of investment that took place several decades ago, and the basic research underlying many of the successful innovations is often conducted several years prior, in diverse fields, without specific applications in mind. So the importance of R&D investment in manufacturing can hardly be overstated.

Aligned with this objective is the opportunity for cross-border collaborative research. Worldwide research collaboration is indeed the inevitable cost-sharing solution and a way to keep the knowledge pipeline from drying up. India, as an emerging economic giant, can provide a large base for this R&D.

Indian firms also need to invest in generating intellectual property. They must attract technical expertise, provide technical training in advanced disciplines, focus on process R&D on the shop floor, and include the number of patents filed as a performance measure for the plants.

Broadly, customer inputs are seldom

sought when designing new products and services. But with the increased information and options available to customers, this must change.

Next practices: Among the levers that have to be put in place to drive manufacturing growth and excellence, adoption of 'next practices' assumes key significance. Investments in R&D, an aspiration to be at the forefront of technology and intellectual property (IP) and an eye on developing the right business practices, can act as the levers which can foster 'next practices'.

Highest quality: In the post-liberalisation period many firms entered into technical collaboration and equity partnership agreements with global OEMs and Tier 1 suppliers. Some Indian auto components firms also began to focus on improving quality. Their efforts included quality initiatives like ISO 9000 certification (QS-9000 and TS 16949 certifications in early 2000) and deployment of TQM. Many firms also aimed for quality awards like the Deming, and several companies—such as Sundaram-Clayton and Mahindra & Mahindra—succeeded during the last decade.

There is need for a sharper focus on the quality standards such that Indian manufactures move up the global value chain and command the highest price.

Efficient logistics: Faced with supply chain bottlenecks, manufacturing firms are constantly pushing for efficient logistics support. At the same time, the

challenges have mounted for the logistics industry as the variety of manufactured products in the markets have increased several fold (there are 30-40 variants of any product category at a given time), and product lifecycles have reduced calling for faster replenishments.

Pertinent to note that logistics cost in automobiles industry accounts for 2-3% of sales whereas in auto components industry it is 3-4%. In the case of cement, logistics accounts for 35-40% of the total cost. This edition features a detailed article on this subject.


Ease infrastructure bottlenecks:

Government must analyse and address the need for an appropriate framework for infrastructure supply chains. This is will be a critical part of realising the goal of double-digit manufacturing growth.

Reduce waste: To keep pushing prices lower without affecting profits or quality, a company needs to take a hard look at the waste generated in the production system. On an average, 95% of what any manufacturing company does falls under the headings of non-value-adding activity, non-value-adding time or non-value-adding cost. Removing this waste and passing on the savings to customers in the form of lower prices can be sustained for several years. Lean manufacturing aims to achieve this.

The opportunities for going lean exist everywhere in a production system. Reports have stated that expensive equipment used for only 10% of its potential constitutes waste. Low-cost automation is another option. India has a strong corps of talented design engineering people, a strength that can be used to implement low-cost automation to bring down equipment cost by over 70%.

Green for growth: Adoption of green manufacturing technologies is not just a social obligation but a growth catalyst. Commerce and Industry Minister, Mr Anand Sharma, has said that "the energy intensity is high in the Indian manufacturing sector and for that reason the usage of green manufacturing is vital in the country." This is another theme has been dealt with in greater detail in this edition.

The stage is set for India to usher a new manufacturing era which will provide the necessary spurs for the economy to test the double-digit growth limits. 



Logistics: Driving Manufacturing Growth

Modern, efficient logistics infrastructure is central to the manufacturing sector's growth strategy

With Government sharpening the focus on manufacturing growth, demand for world-class logistics infrastructure is felt greater than ever before. In recent years, Government has taken several key measures to support the growth of the logistics infrastructure, such as, opening up the industry to 100% FDI, removal of Central Sales Tax (CST), introduction of Value Added Tax (VAT), promotion of multi-modal transportation network, and promotion of public private partnerships (PPP) for infrastructure development.

Initiatives such as the National Highway Development Project (NGDP), inter-connectivity of the 12 major ports, enhancing the port handling capacities, eastern and western rail freight corridor that adds up to 2,700 km rail lines, higher rail freight handling capacities, and the Dedicated Delhi-Mumbai Corridor have catalysed the growth of the logistics industry.

Yet India has slipped on the logistics performance index from the 39th rank in 2007 to 47th rank in 2010. This index is based on World Bank survey. Addressing some of the key concerns in this respect, Mr Cyrus Guzder, Chairman, CII National Logistics Council & CMD, AFL Pvt Ltd, said

at the Logistics Summit 2010, held in New Delhi in December 2010, that infrastructural bottlenecks and process lags in logistics were costing the national economy around \$50 billion. He explained that as rail infrastructure is not properly aligned with the new production and distribution centres in the country, there is excess dependence on road infrastructure for freight movement.

The challenges have mounted for the logistics industry as the markets that have become truly global, the variety of products in the markets have increased several fold (there are 30-40 variants of any product category at a given time), and product lifecycles have reduced calling for faster replenishments.

According to Mr Clifford Patrao, Associate Partner, Consulting Services, IBM Global Business Services, the logistics industry is having to contend with the fact that: (i) there are numerous new products and more varieties in the market mandating more SKUs; (ii) globalisation has brought about more variability in business; (iii) compressed order time and cost reduction will continue to be the focus area; (iv) sustainability will be a key concern vis-à-vis manufacturing; and (v) demand volatility and shrinking of economic cycles will call

for flexible upscaling and downscaling.

"The logistics bottleneck is not so much about logistics failure; it stems from the expectation that logistics will rise to the occasion," he said, adding that inventory build-ups are happening because manufacturers fear facing shortfall in material inputs.

Mr Patrao said that logistics will have to improve visibility. Manufacturers need to know the event, and where it occurs. At the same time, integrated risk management acquires due attention, he said. "Who bears the risk and in what proportion is also not clear – be it the manufacturer or logistics service provider," he said.

Performance management is also an important area to be focused upon. The industry should have to adopt the right performance benchmarks, he said.

One For The Road

Among the manufacturing sectors, the auto industry is seen to have adopted a highly efficient logistics model. India's auto sector is indeed the fastest growing globally. India has also emerged as one of the largest exporters of automobiles and auto parts to both the mature and emerging markets. Logistics cost in automobiles industry accounts for



2-3% of sales whereas in auto components industry it is 3-4%. Reverse logistics cost in Indian auto and auto components industry is estimated to be around 0.5-1.0% of auto and auto components industry.

Mr Prem Verma, CEO, Tata Motors Distribution Company, added that the automotive industry in India is one of the largest in the world and one of the fastest growing globally. India's passenger car and commercial vehicle manufacturing industry is the fourth largest in the world. India has emerged as Asia's fourth largest exporter of passenger cars, behind Japan, South Korea and Thailand.

Mr Verma said the Indian auto industry is a sunrise sector, manufacturing over 11 million 2 & 4-wheeled vehicles and exports about 1.5 million every year. India is home to 40 million passenger vehicles and more than 2.6 million cars were sold in India (an increase of 26%), making the country the second fastest growing automobile market in the world. The annual car sales are projected to increase up to 5 million vehicles by 2015 and more than 9 million by 2020. By 2050, the country is expected to top the world in car volumes with approximately 611 million vehicles on the nation's roads.

Mr Verma also said that the logistics industry in the country will grow at 20% CAGR. The road traffic will grow at 10% annually till 2012. However, he said that the challenge lies in integrating the entire supply chain management to a single entity. The other challenge will be in aligning various stakeholders that include vendor, transporter and dealer along the chain for common good. He advocated a collaborative approach linked up with competition and combined efforts.

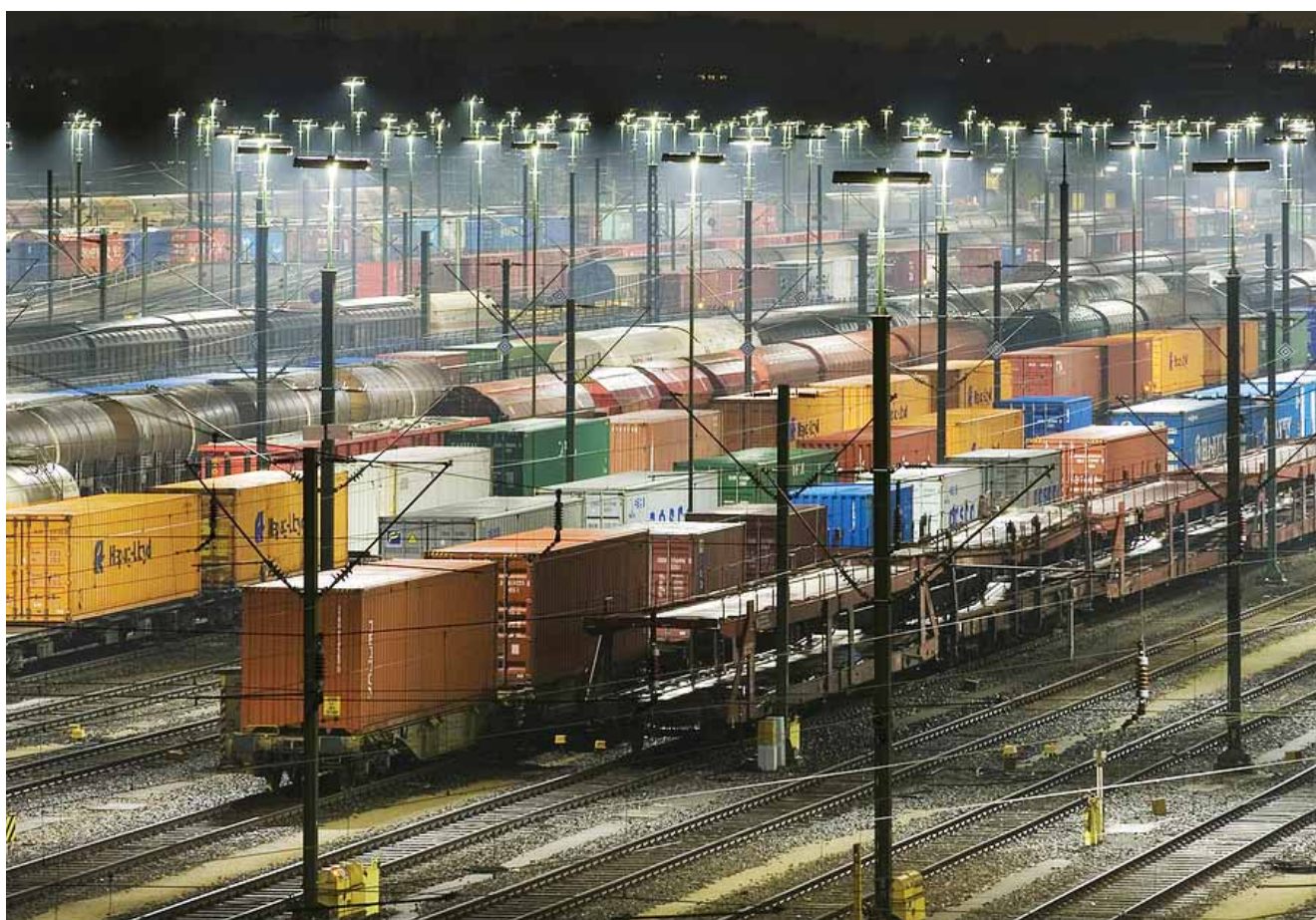
Time-bound delivery and safety are the two most critical aspects of managing supply chains of automobile companies that would also reduce logistics costs considerably. With the inclusion of functions such as OEM (original equipment manufacturer) solutions, line feeding, spares distribution, CBU (completely built unit) distribution, reverse logistics, customised fleet, warehousing and inventory management by supply chain solution providers, automobile companies will be able to improve the overall efficiency. This will not only lead to significant reduction in working capital requirements and maintaining an inventory of dealers but would also help in building the brand image and goodwill for the

companies, Mr Verma said.

Mr Prashant Saxena, GM – Sourcing (Small Car Project), Tata Motors Nano team, said the challenge for a company like his which produces one car a minute would be to see how to collapse the supply chain all across India. Also, the car parts have to be packaged well to minimise handling damages. The suppliers have to be located in vendor parks. The third-party logistics (3PL) transport players should find an optimum vehicle mix, he said, adding that now the focus is on just in sequence (JIS) and not JIT.

Commodities

Logistics is also central to the production and distribution of commodities. In the case of cement, logistics accounts for 35-40% of the total cost. Elaborating on the evolving trends in cement logistics, Mr Deepak Gulati, Director – Logistics, ACC Ltd, said that the growth of the cement industry over the last 10 years has placed a greater demand on the support logistics infrastructure. As such, cement consumption in the country grew at 9% CAGR during 2000-09 and the aggregate cement demand is expected to grow at 9-11% per annum over the next Plan period 2012-2017, propelled by a vibrant



economy and Government's thrust on infrastructure development that includes new power plants, airports, ports, rail corridors, flyovers, roads, etc.

The rising per capita income will push up demand for housing which in turn will increase the demand for cement, resulting in additional capacity being created.

He pointed out that rail is the preferred mode of transportation of cement. Rail accounts for approximately 38% of cement despatch (68 MT of total 181 MT) and 53% of clinker despatch. However, Mr Gulati noted that the cement industry has not succeeded in significantly increasing the rail coefficient over the last few years, despite participation in Indian Railway's Wagon Investment Schemes.

The fact is that rail share in total cement despatch volume has been gradually falling on account of insufficient availability of adequate number of wagons, priorities accorded to movement of food grains, fertilizer etc.

On the cost front, Mr Gulati said that logistics costs constitute 17-20% of net sales, which makes cement a highly freight sensitive industry.

Mr Gulati said that customers' preferences

are changing rapidly and that logistics has a key role in brands meeting the new customer demands. Different customer segments have different demands. The Institutional segment calls for faster delivery, consistent availability and product specifications, and the logistics strategy to meet this demand will be based on bulk terminals at strategic locations and 3PL services for key accounts.

Mr Gulati said if the Railways wants to achieve the objective of increasing cement freight traffic and rail coefficient, as spelled out in its Vision 2020, Indian Railways would need to review the existing Liberalised Wagon Investment Scheme to make PPP pragmatic. The cement industry will need to procure High Capacity and Special Purpose wagons (for cement, clinker and flyash) to augment production in line with demand and bridge the gap in loading of cement and clinker by rail.

Conclusion

At a broad level, consolidation of the logistics industry will aid the growth of a hub-and-spoke model, which in turn will support the manufacturing growth in a major way. However, the industry is currently highly fragmented (the top 10 companies account

for a mere 2% of industry). Also, areas like coastal and inland waterways infrastructure demand the greater attention of the policy makers. Digital infrastructure is another key area to be focused upon. Digital logistics tools could help the manufacturing players in reducing trade costs by 30% and business operations costs by 15%.

From the infrastructure development perspective, Government is developing 5-7 expressways of 100-300 km, whereas the current need is for 20 expressways. There is additional need for 750 new last mile road links and a considerable number of last mile rail links. Multi-modal logistics parks too are to be developed in tandem with the growing demand.

There is rising demand for facilities like dry ports which are a must for EXIM trade. These dry ports provide an important link between international gateway sea ports to the vast hinterland. Dry ports in the hinterland would be best preferred in places that are convenient for inland movement, within easy reach of the customer (manufacturer & end user) and well connected to other parts of the influence area with a good rail network.

The stage is set for fresh investments in logistics infrastructure that support the country's manufacturing growth. ■■■

Capital Goods: Walking The Tightrope

The Indian capital goods sector has expanded quite significantly since the turn of the New Millennium but new challenges confront the sector, mandating the need for further modernisation

A strong and vibrant capital goods sector has been at the core of India's industrial strategy since the planning process was initiated in 1951. Today, the Indian capital goods sector is characterised by a large range of products, so much so, even nations with advanced capital goods sectors do not produce the entire range of capital goods, but instead focus on segments, or sub segments.

The range of machinery produced in India includes heavy electrical machinery, textile machinery, machine tools, earthmoving and construction equipment including mining equipment, road construction equipment, material handling equipment, oil & gas equipment, sugar machinery, food processing and packaging machinery, railway equipment, metallurgical equipment, cement machinery, rubber machinery, process plants & equipment, paper & pulp machinery, printing machinery, dairy machinery, industrial refrigeration, industrial furnaces, etc.

The capital goods sector was on an upswing since March 2002, buoyed by investments in infrastructure sector, oil & gas sector, power sector, steel plants, automobile industries etc.

Government and industry have taken firm steps to boost this sector knowing fully that manufacturing of capital goods should be encouraged rather than import and enhance the value addition and technology transfer.

Besides, the sector's contribution to the exchequer has been in excess of Rs 20,000 crore in terms of customs, sales tax and excise collections and which will be higher if corporate taxes are added. The industry currently employs 6 million skilled and semi-

skilled workers. It needs to be highlighted that this sector generates the much needed employment for less educated persons like fitters, welders, machine operators and ITI graduates and employs all collared people.

Slowdown

The sector's expansion notwithstanding, it has witnessed a dramatic slowdown in recent times due to the inability of the local manufacturers to meet the growing demand, while the Chinese equipment is relatively inexpensive and readily available. According to reports, the Chinese equipment makers, much like other exporters from China, also benefit from the low interest rates and an undervalued currency to boost exports.

Pertinent to note that amidst the backdrop of the ongoing capacity expansions, the Indian power equipment manufacturers have been demanding imposition of customs duty to ensure a level playing field, while the independent power producers (IPPs) have been lobbying for cheaper imports.

Capital goods sector was also expecting high worth orders from steel segment leading to an increase in its backlog since the steel sector is planning to increase capital expenditure on plants.

Reflecting on the sector's relative slowdown, Mr M S Unnikrishnan, Chairman, CII Capital Goods and Engineering Committee, told the media that there is a visible retardation in the finalisation of orders though the executions of orders are continuing. The numbers at this point of time are the result of the orders that were finalised one or two years back. The gestation period for larger projects are anywhere from 12 to 18 months period.

He said that the medium sectors

comprising industrial non-power infrastructure related like the capacity building for cement, steel are going to show a lower number towards FY12. Today enquiries are there, demand is there but order conclusion and finalisations which means take off of projects are at a slower pace in comparison to one year back.

By end of 2011 or the first half of 2012 the capital goods numbers in the series will start looking more muted, barring one or two sectors -- where there are already carry forward orders available -- such as the power sector.

Key constraints

Was money a reason for this slowdown? Rising interest rate is apparently slowing down the economy which will have a long lasting cascading impact in FY13 and FY14. So with supply-demand again going to play havoc, there is likely to be a price-wise spiral. The key growth constraints are:

High Working Capital Requirements:

Indian capital goods manufacturers have working capital requirements up to 40-45% of net sales (against the global benchmark of 15%). This is primarily due to the high inventory required to be carried as a result of delays in supply of inputs and consumables. Such delays result from transport bottlenecks; delays in customs clearance and supply commitments.

Lack of Thrust on Exports:

Indian firms, in general, lack export thrust in their marketing strategies. They focus largely on the domestic market; exports gain importance only in the case of a fall in domestic demand.



Infrastructure Issues: The manufacturing sector is facing disadvantages when compared to their international competitors due to the poor infrastructure available in India in terms of:

- Unreliable power and high cost per unit.
- Port congestion and high turnaround time
- High cost of fuel and poor road connectivity of port/airports with hinterland leading to higher transportation cost.

Deemed SEZ: The current SEZ legislation aims to create world class infrastructure within a specified region. To enjoy the benefits of this legislation, a company is required to be physically located within the SEZ. This would make it necessary for the existing exporters to spend valuable resources in re-locating manufacturing facilities to an SEZ. An added complexity is that many companies need to be located near the source of raw material (e.g. steel), or skilled labour pools, or clusters of suppliers. It would, therefore, not make economic or business sense to relocate such units.

Technology constraint: In many sectors

of capital goods industry, the current levels of technology in use are not contemporary. Government should constitute a national technology policy for critical areas. It should ensure that for all major projects in India, foreign vendors desirous of supplying capital goods must necessarily source 30% of the proposed bid from local companies. India should leverage its market to make it obligatory for foreign companies securing orders to transfer technology to competent local companies.

R&D: Policy interventions may be needed to encourage domestic companies to invest more into R&D. Customs duties / excise duties of laboratory testing equipment should be reduced to make it affordable.

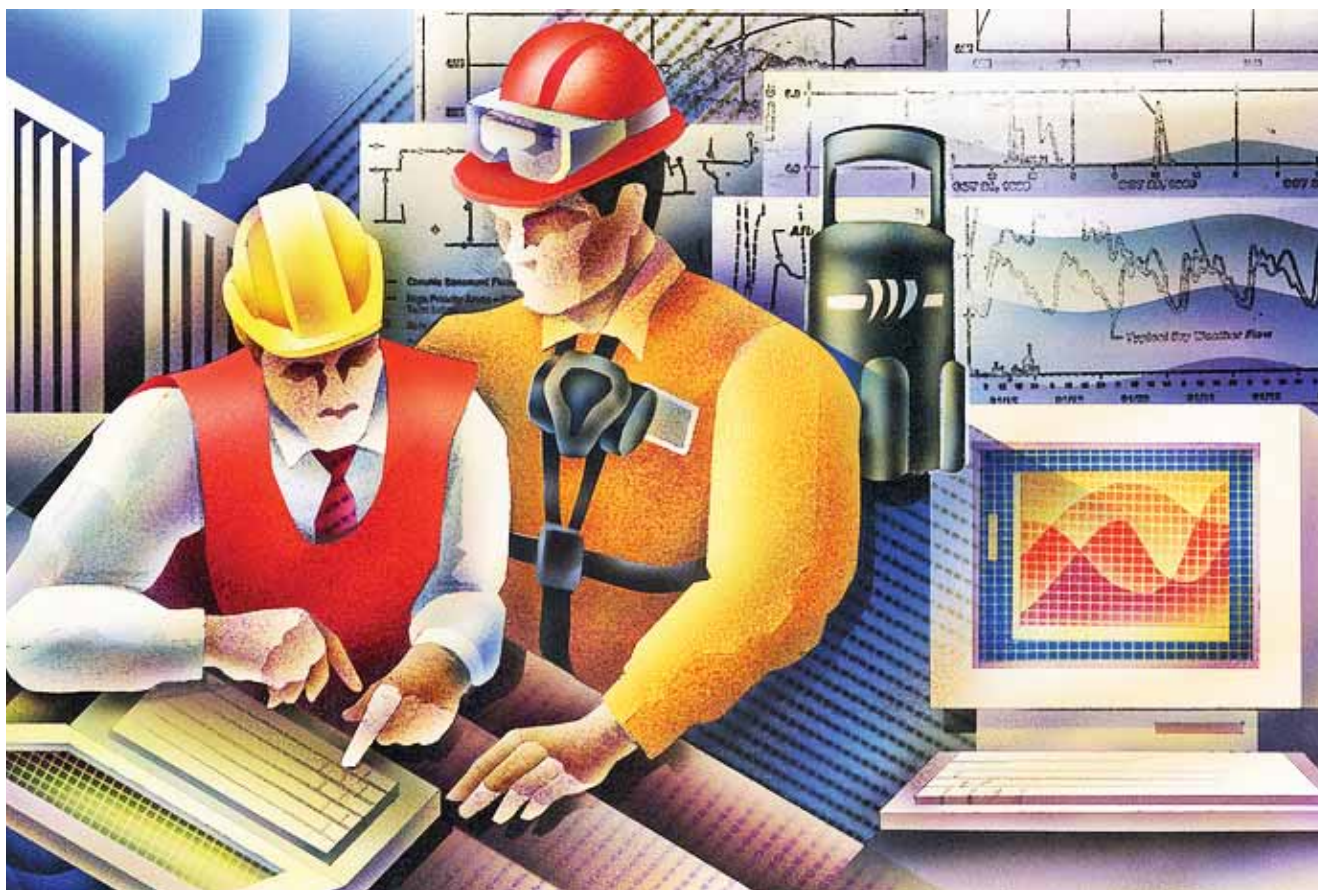
ICT: To encourage higher investment into ICT, industry has sought higher depreciation on IT hardware and software to encourage more companies to use ICT.

Cost Competitiveness: The Indian capital goods industry largely uses crucial inputs such as iron and steel that are of domestic origin. Over the years, there has been

significant increase in cost of inputs, but the players in this industry are unable to pass on the price increase to the end consumers, due to competition from imports.

The capital goods industry also has high incidence of taxation; a number of indirect duties (such as excise duty, octroi, entry tax, sales tax and service tax) are levied adding up to the end user cost. This makes the indigenous supplies costlier vis-à-vis imported capital goods. Some estimates have put the cost disadvantage, due to such levies to, an extent of over 20%.

Delivery Schedules: According to Exim Bank, most of the capital goods are not supplied off-the-shelves and are custom-made to suit the requirements of end users. Thus, the delivery schedule to cater to the order is longer than many other engineering products. However, due to various reasons, including infrastructure constraints, the delivery schedules of Indian capital goods suppliers are longer than their foreign counterparts. Industry sources estimate that the delivery time of Indian capital goods manufacturers are two times longer than



their global counterparts affecting the competitiveness in delivery schedules. In such circumstances, imported capital goods are preferred over Indian capital goods, though they are technologically and functionally comparable with international standards.

Strategies

Change In Approach: Sale of capital goods is not a one-time business but requires technical support in transportation, erection, staff training (for operation and minor repairs), continuous service maintenance and periodical upgradation in technology. All over the world, the capital goods manufacturers are turning themselves as engineering services companies offering turnkey solutions to retain the customers. Players in Indian capital goods industry may also increasingly reorient their approach to transform into service based organisations.

Strengthening R&D: Consistent with global trends, Indian capital goods industry also needs to grant highest priority to innovation and R&D. The R&D intensity of firms in Indian capital goods industry is less than 1%, far below than the R&D intensity of

other sectors such as pharmaceuticals and automobiles. Precision measuring, materials engineering, and process innovation are some of the areas for strengthening R&D in Indian capital goods industry.

Common R&D facilities under the cluster approach or under the public-private partnership approach would enhance the technological strengths of the Indian capital goods industry.

Tapping Outsourcing Opportunities:

Globally, OEMs are increasingly outsourcing their design and engineering services to developing countries like India to add value at lower cost and to focus on their core competencies. According to a NASSCOM study, spending on engineering services across the world is estimated to cross \$1 trillion in 2020. While only \$15-20 billion (2% of total demand) is being off-shored at present, the off-shoring market is expected to grow to \$225 billion (around 20% of total demand) by 2020.

Thrust on Safety Standards and Product Liability:

Exporting to the US and EU requires the machinery manufacturers to carefully consider the requirements for both regulatory and liability protection.

Accelerating Investments in

Infrastructure: Growth in investments in infrastructure sectors, especially for construction of road / rail network, bridges and dams, ports (both air and sea), and handling facilities in such ports and power stations boost the demand for capital equipments. This would be significant in the case of electrical machinery (investments in power sector) and construction / earth moving equipments (investments in road / rail infrastructure), which would have direct impact. In addition, investments in infrastructure would boost the manufacturing sector and thereby provide growth opportunities for capital goods such as machine tools, textile machinery and process plant machinery.

Future

The downtrend is expected to continue. By August there will be clear indications of the monsoon and the way the US economy is moving. If both these things move well there is strong likelihood of a recovery in the third quarter of the current fiscal. The recovery in this case will be moderate as higher oil and commodity prices will play a spoil sport. Also, a high interest rate regime will likely result in slower rate of growth in the capital goods sector. ■■

The Dark Horse

There are short-term growth challenges. However, Indian manufacturing is firmly placed to test higher growth levels, say key reports

In a report published by the United Nations Industrial Development Organization (UNIDO) in March 2011, India has secured a place among the world's 10 largest manufacturing countries. The report cited that efficient use of energy, helped by enhanced labour productivity and increase in exports of manufactured goods, helped the country secure its position among the top 10 industrial producers. Even though the country had only 1.8% share in the world manufacturing between 2000 and 2010, India occupies the 9th position among the global leading manufacturing countries.

However, International Yearbook of Industrial Statistics 2011 says India's level of industrialisation is very low despite it emerging as one of the top 10 manufacturers of the world. The country's per capita manufactured value added—a measure of income generated by the manufacturing sector per person—was one-eighth of China's and one-sixth of Brazil's in 2010, the two other developing countries in the group of top 10, according to statistics released by the UNIDO.

India's impressive annual average growth in manufacturing, second only to China, at 7.1% over the last decade and increment in world manufacturing from 1.1% to 1.8% in the period, were taken away by the increase in India's population over the same period, the UNIDO's statistics show.

The industry captains have been quoted in the media saying that the data reinforces the need to increase the manufacturing sector's contribution to the GDP from 16% to 25% over the next decade, as announced by the finance minister in his budget speech, as concrete economic growth will only come from industry and not services.

Meanwhile, 'World Manufacturing Production Quarter I, 2011' by UNIDO says that growth of the manufacturing sector of India during the quarter ended March



31, 2011 was 5.1% - this figure which is not only 1/3rd of China's factory output but also lower than the world average of 6.5 %.

According to the report, during January-March 2011, India's manufacturing growth has been estimated at 5.1%; during January-February 2011 it was recorded at 3.6 % while it improved to 7.9% in March 2011. The overall growth of industry was 7.8% during 2010-11 compared to 11% in the previous fiscal. This is due to the poor performance of the manufacturing and mining sectors. The manufacturing sector, which accounts for almost 80% of the index, experienced a decline in annual growth from 11% in 2009-10 to 8.1% in 2010-11.

According to HSBC Purchasing Managers' Index (PMI) report, growth in Indian manufacturing sector slowed down slightly in May compared to April's five month high. The report posted 57.5 in May, down slightly from April's 58.0, to indicate marked growth of the Indian manufacturing sector. However, output

remained substantial and employment was down due to labour shortage.

May data signalled a substantial rise of output in the Indian manufacturing sector, extending the sequence of sustained growth to 26 months. Some 42% of people interviewed indicated a higher level of production compared to the previous month, commenting that this reflected a further increase in new business. While the rate of expansion slowed slightly since April, it was the second-fastest of 2011 so far and above the long-run trend.

CII Perspective

According to the latest CII-ASCON survey, the overall performance of industry showed improvement during April-March 2010-11 compared to the previous year, although there are variations in the performance across sectors. Mr Chandrajit Banerjee, Director General, CII, has observed that inspite of high inflation and rising input cost, the vast majority of industry sectors are set to record higher growth in financial



year 2010-11 than in the previous year.

Out of 121 sectors covered by the survey, 41 sectors (33.8%) showed excellent growth rate of more than 20% in April-March 2010-11 compared to 34 sectors (28.0%) in April-March 2009-10 which shows a marked improvement. The sectors registering high growth rate have decreased from 30 (24.7%) in April-March 2009-10 to 26 sectors (21.4%) in April-March 2010-11. This is because more sectors have shifted to the excellent growth segment.

The share of the sectors registering negative growth rate has declined significantly to 4.1% (5) in April-March 2010-11 from 20.6% (25) in the corresponding period of the previous year which is a clear sign of improvement. However, the number of sectors in the moderate growth category of 0-10% has increased from 19.0% to 40.4% during the same period, indicating that despite the overall improvement some sectors are still facing difficulties. The sector-wise break-up shows that many of these sectors are in the basic and intermediate goods categories.

Sectors reporting excellent growth rates are Air conditioners (29.4%), Tractors (25%), Fertilizer (37.2%), Capacitors (LT & HT) (20.6%), Ball and roller bearings (33%), Earth moving and construction equipment (30%), Vehicle industry (28.2%), Tyre Industry (24%), Textile Machinery (25.0%), Machine Tools (51.0%), Nuclear Electricity (39.9%) etc.

Some of the sectors recording high growth are Utility vehicles (17.6%), Motor starters (18.0%), Natural gas

(14.4%), Crude oil (11.9%), Transmission line Towers (12.3%), Power Transformer (11.9%), Motors LT (12.2%), Energy meters (19.6%), Home and Personal care (12.0%), Automation industry (10.5%), Alcoholic Beverages (13.5%), Biscuit (19.5) etc .

Sectors registering moderate growth of 0-10% in April-March 2010-11 include Caustic soda (4.9%), Soda Ash (9.0%), Cement (4.4%), Refinery (2.4%), Steel (7.8%), Rubber goods (6.5%), Ceramics (3.0%), and Bus and truck tyre (6.0%).

Motors (HT) (-1.5%), Tea (-2.7%), Asbestos Cement (-6.1%), Edible oils like Sunflower oil (-12.0%), Rape/Mustard (-0.5%) are in the negative zone.

The CII-ASCON survey also estimated the performance of sales and exports of manufacturing industries. Out of 30 sectors reporting for sales, 18 sectors are estimated to report excellent growth, 4 to report high growth while 8 sectors are estimated to report moderate growth. Out of 25 sectors reporting exports, 18 are reported to be in the excellent growth category, 1 in high growth category, 4 in the moderate growth category while 2 fall in the negative growth category.

The survey also highlights some of the general and sector specific issues faced by the industry. The general issues constraining the performance of industry include: Lack of proper Infrastructure in the areas of power, transport and water, shortage of skilled labour, poor availability of finance especially micro finance, delays in environmental clearances, no proper government policy in case of land. The recent increase in the price of coal for

captive power plants has increased costs for many manufacturing sectors.

The survey revealed that multiple agencies in decision making, absence of sector specific interactions, lack of structured response and two way communications between government and industry are also constraining factors for industry.

The sector specific issues pertain to: indiscriminate import of second hand and cheap old technology textile machinery, no incentives by government for exporting caustic soda and soda ash to other countries, unfair competition from spurious products pertaining to ball & roller bearing, high rate of VAT at 12.5% for the biscuit industry, shortage and high prices of HR Coils, the basic input for the production of cold rolled products, inconsistency in the supply of natural gas both in terms of quality and quantity is seriously affecting sponge iron production, problems due to inverted duty structure on rubber latex is a major concern for tyre industry.

These issues need to be addressed by Government at the earliest for industry to maintain its high growth momentum.

Mr Banerjee has said: "Many sectors are coming under pressure due to the rising cost of raw materials and fuel. Rising interest costs will put further pressure on their margins in the coming year. To allow industry to expand capacities, Government should pursue the reform agenda which includes several forward looking steps including streamlining land acquisition and faster environment clearance for various projects." ■■■

CII organises first Green Manufacturing Summit

Even as Government and industry maintain keen focus on increasing the manufacturing share of GDP from 15-16% now to 25% in the coming years, the efforts will be guided by two imperatives – economic and social. On the economic side, the focus will be on the adoption of eco-friendly, energy efficient technologies. And, on the social front, the accent will be on employment generation and poverty alleviation. Stating this in his keynote address at the inaugural session of the 1st Green Manufacturing Summit, organised by Confederation of Indian Industry (CII) in New Delhi, Mr Anand Sharma, Minister for Commerce & Industry, Government of India, said the soon-to-be-announced New Manufacturing Policy will catalyse both manufacturing growth and sustainable development in the country.

Stating that the issues underpinning global warming, carbon emissions and sustainable development are global in nature, Mr Sharma said that countries that possess the green technologies should find ways and means to share those with the least developed countries that do not have the resources to adopt them. He said that poverty is one of the key contributors to global warming. Hence, it would be prudent for countries to share green technologies and associated processes to make the world truly sustainable.

Focusing on some of other key areas that influence manufacturing growth, Mr Sharma said it was important that the sector attracted the right kind of talent.

Promoting green manufacturing on a wide scale would call for a systems approach. Stating this, Prof. Ing Hans-Jorg Bullinger, President, Fraunhofer, Germany, said that the motivation for the introduction of resource-efficient manufacturing is likely to come from the fact that high energy-intensity in manufacturing will not be sustainable in the foreseeable future.



Mr Anand Sharma, Minister for Commerce and Industry releasing the CII-BCG Report on Green Manufacturing. Also seen (L-R) in the picture Mr Hari Bhartia, (Then) President, CII, Dr Arindam Bhattacharya, Managing Director BCG India, Mr Venu Srinivasan, Chairman, CII National Manufacturing Council.

He said that in some manufacturing companies, the cost of electricity is seen to outstrip the cost of tools. This can be addressed with the adoption of green energy and technologies.

Underscoring the fact that green manufacturing also contributes to savings, he said that manufacturing companies should not only look to recycle equipment but also recondition them to obtain greater savings.

He observed that green manufacturing should not be confined to the manufacturing stage alone but should extend to the life of the product. Companies should therefore invest on both fronts, he said.

Mr Hari Bhartia, then President, CII, said that manufacturing growth is central to the economy's sustained growth and added that all key constraints such as physical infrastructure bottlenecks, high transaction costs, archaic labour laws, cascading taxes, etc., should be addressed. He laid

particular emphasis on building a larger skilled workforce for the sector and added that green manufacturing will no longer be an agenda for building company reputation but a tool for competitive advantage.

Mr Venu Srinivasan, Chairman, CII National Manufacturing Council, said that energy intensity is high in many Indian manufacturing units. Looking into the future, he said that green costing will need to be focused upon and observed that supply chains that do not factor the energy intensity and other green imperatives will lose relevance in time.

Mr Chandrajit Banerjee, Director General, CII said in his opening remarks that CII has maintained a keen focus on manufacturing growth over the last two and a half decades and that green manufacturing has received focused industry attention over the last two years. It was this focused approach that paved the way for this 1st Green Manufacturing Summit. 

IIP-Manufacturing

Rises 8.2% FY 10-11

The base year of all India Index of Industrial Production (IIP) has been revised by the Central Statistics Office (CSO) of the Ministry of Statistics and Programme Implementation from 1993-94 to 2004-05.

With this revised base, the Quick Estimates of IIP (Base: 2004-05 =100) for the month of April 2011 have been released by CSO. The General Index for the month of April 2011 stands at 167.8, which is 6.3% higher as compared to the level in the month of April 2010.

The annual growth for the period April-March 2010-11 stands at 8.2% over the corresponding period of the previous year.

The Indices of Industrial Production for the manufacturing sector for the month of April 2011 stands at 178.0, with the corresponding growth rate of 6.9% as compared to April 2010. The annual growth in this sector during April-March 2010-11 over the corresponding period of 2009-10 is 8.9%, which moved the overall growth in the General Index to 8.2%.

In terms of industries, 16 out of the 22 industry groups (as per 2-digit NIC-2004) in the manufacturing sector have shown positive growth during the month of April 2011 as compared to the corresponding month of the previous year.

The industry group 'Office, accounting & computing machinery' has shown the highest growth of 96.5%, followed by 22.9% in 'Motor vehicles, trailers & semi-trailers' and 22.3% in 'Fabricated metal products, except machinery & equipment'.

On the other hand, the industry group 'Furniture; manufacturing n.e.c.' has shown a negative growth of 15.0%

Manufacturing (Base 2004-05 = 100)

Month	2009-10	2010-11	2011-12
Apr	145.5	166.6	178
May	150.8	164.2	
Jun	153.4	165.5	
Jul	153.3	172.1	
Aug	157.9	165.2	
Sep	161.1	172.1	
Oct	157	176.4	
Nov	156.6	166.8	
Dec	172.3	187.3	
Jan	172.6	186.5	
Feb	166.9	179	
Mar	185.7	205	
Average	161.3	175.6	

Average 161.3 175.6

Indices for April 2011 are quick estimates

Source: Ministry of Statistics & Programme Implementation

followed by 13.5% in 'Wood and products of wood & cork except furniture; articles of straw & plating materials'.

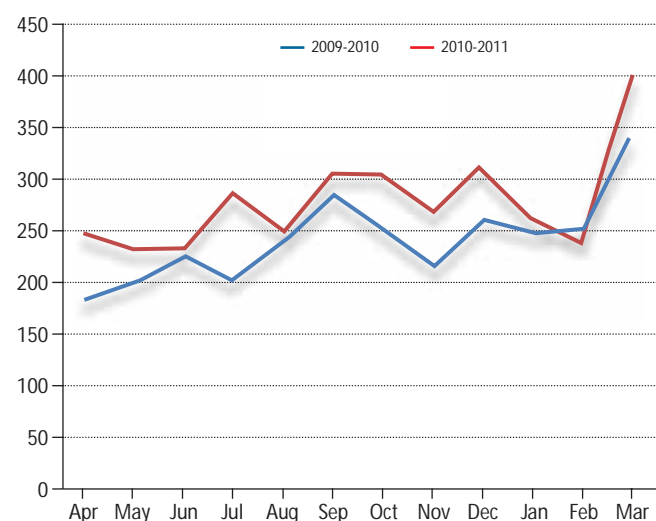
As per Use-based classification, the growth rates in April 2011 over April 2010 are 7.3% in Basic goods, 14.5% in Capital goods and 3.4% in Intermediate goods. The Consumer durables and Consumer non-durables have recorded growth of 3.8% and 2.1% respectively, with the overall growth in Consumer goods being 2.9%.

Some of the important items of capital goods showing high growth during the current month include 'Heat exchangers'(130.9%), 'Computers' (115.2%), 'Sugar machinery' (80.3%),

'Textile machinery' (55.2%), 'Boilers' (51.2%), 'Plastic machinery including moulding machinery' (45.9%) and 'Earth moving machinery, (35.9%).

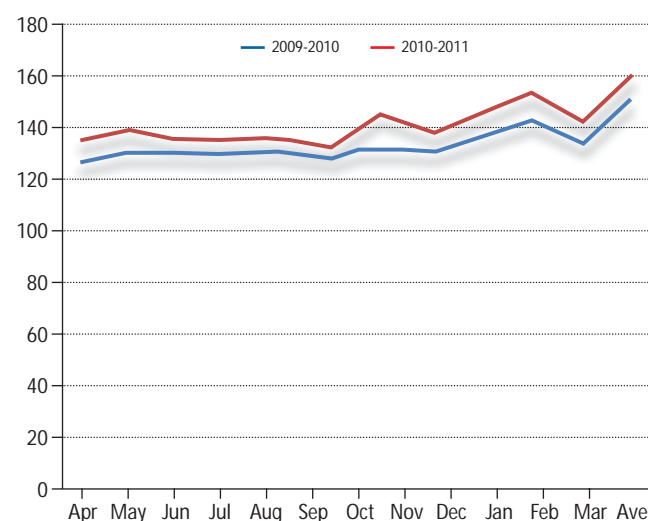
The other important items showing highly positive growth during the month are: 'Linear low density polyethylene' (172.0%), 'Oil, lubricating' (110.3%), 'Leather garments' (55.2%), 'Stainless/ alloy steel' (54.5%), 'Ethylene' (52.0%), 'Sugar' (46.8%), 'Rice' (45.5%), 'Ayurvedic medicaments' (45.5%), 'Molasses' (41.5%), 'Propylene' (34.7%), 'Industrial alcohol (rectified/ denatured spirit)' (32.9%), 'Milk powder all kind' (32.1%) and 'Sponge iron' (30.5%).

IIP – Use-Based (Capital Goods)(Base 2004-05 = 100)



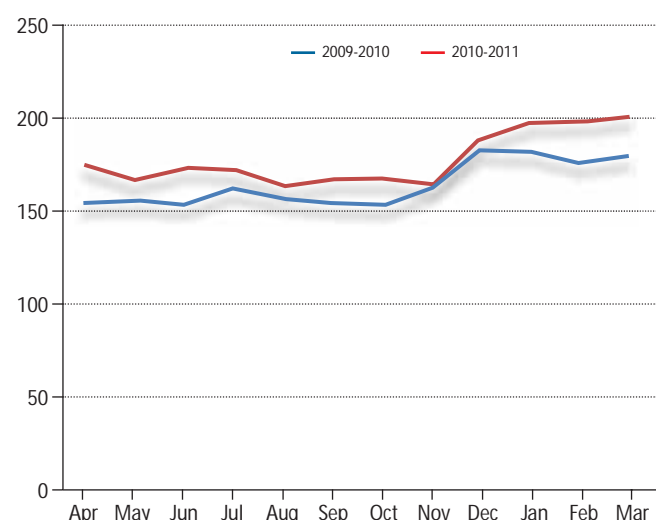
Indices for April 2011 are quick estimates
Source: Ministry of Statistics & Programme Implementation

IIP – Use-Based (Basic Goods) (Base 2004-05 = 100)



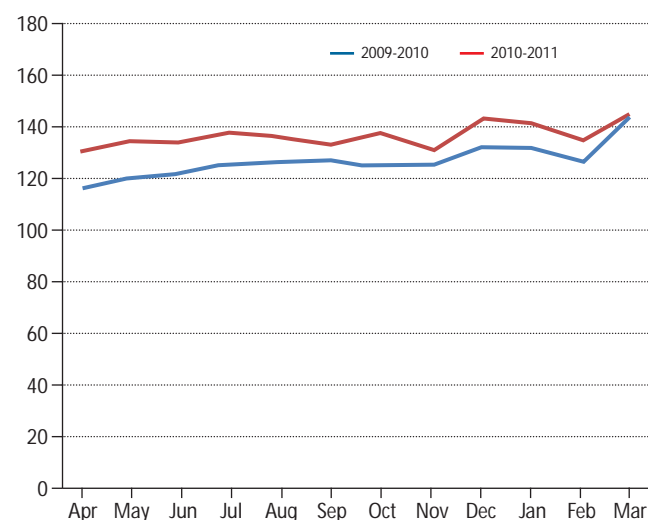
Indices for April 2011 are quick estimates
Source: Ministry of Statistics & Programme Implementation

IIP – Use-Based (Consumer Goods) (Base 2004-05 = 100)



Indices for April 2011 are quick estimates
Source: Ministry of Statistics & Programme Implementation

IIP – Use-Based (Intermediate Goods) (Base 2004-05 = 100)



Indices for April 2011 are quick estimates
Source: Ministry of Statistics & Programme Implementation

Contact us

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