



Strengthening International Competitiveness in Knowledge-based Industries: A Strategic Approach

A recent RIS study analysed the determinants of international competitiveness in a globalizing trade environment, the factors impinging on the export competitiveness of Indian enterprises especially in knowledge-based industries, and enterprise-level strategic factors to draw lessons for policy. After a quantitative analysis based on secondary data covering a sample of nearly 4,500 Indian companies across a wide spectrum of industries, different size classes and ownership patterns, detailed and more qualitative analysis was conducted for five select knowledge-based industries. The context has been the continued domination of India's export structure by relatively simple, slow-moving and low-value adding labour-intensive goods while the East Asian countries have made a major mark in the exports of fast moving knowledge-based goods. The imperative of strengthening international competitiveness has assumed greater salience in view of the rupee appreciation over the past year.

This study focused on the determinants or factors that explain the variation across firms in an industry in terms of export competitiveness. This approach was different from a conventional product-by-product approach. Because exporting as an activity is undertaken by firms, an understanding of factors that explain their competitiveness might enable us to understand the role played by strategic factors or those that are subject to corporate strategy such as firm size, their technological strategy, outward investment strategy, among others.

This policy brief summarized the major findings and draws some lessons for policies from them.

Reforms and Patterns of Export Competitiveness

The broad patterns in export performance suggest that the economic reforms implemented since 1991 have

helped address some of the anti-export biases prevailing in the pre-1991 period and improve India's profile in the international division of labour in manufactured exports. This in turn has contributed to an improvement in the over all export performance both in terms of export growth and export intensity. These achievements notwithstanding, analysis of the trends and patterns of export competitiveness of India's knowledge-intensive exports during the last decade highlighted the poor performance of India as compared to other Asian countries, notably China. Despite reforms, the technology profile of Indian manufacturing and exports seems to have not improved significantly to cope with the changing structure of global trade. The relatively low-technology industries like food, beverages and tobacco, textile and clothing, gems and jewellery, fabricated metal products, among others still remain as the most important sources of export in the Indian manufacturing. The export intensity of high-technology firms like pharmaceuticals and electronics stood second in the ranking based on export intensity while that of medium-high technology firms from chemicals, electrical machinery, non-electrical machinery, and transport equipment stood last. The export intensity of medium-low technology firms from rubber, plastic, cement, metal, and other non-metallic products stood third in the ranking. The net result has been that even today almost 60 per cent of manufacturing value added is contributed by low and medium-low technology industries and the share of technology/knowledge-intensive exports is less than 5 per cent.

The study also finds that firms, irrespective of their ownership, had shown higher export

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intensity in the case of the low-technology segment of manufacturing rather than that of high technology. Perhaps, the resource endowment of the country—availability of cheap labour—favours the production of low-technology industries. Another important finding with a significant bearing on policy is that the firms with outward investment have shown substantial progress in the export competitiveness in high-technology industries. On the other hand, the highest export intensity improvement of firms without outward investment is observed in the case of the low-technology segment. Therefore, it suggests that outward investment is a strategic tool to achieve export competitiveness in general and particularly in high-technology industries.

Determinants of Export Competitiveness of Enterprises

Analysis of the firm-level determinants of export competitiveness during the last decade using a large data set has thrown up further insights into the issue at hand. The study finds that large size lends a definite edge to firms in the overseas markets, at least up to a critical threshold level. The smaller size firms thus could not achieve export potential at par with large-size firms as they lack both information on the global market and the required bundle of technological and financial resources to expand into global markets. Given the fact that Indian manufacturing firms are predominantly small in size, policies that recognize the importance of firm size are clearly desirable. Policies that support small size firms by designing and implementing programmes to ensure their access to required information on export opportunities, providing technological supports, and greater access to credit markets and export distribution channels, may help in enhancing the export potential of the sector. It also follows from this that some consolidation of smaller Indian firms may be useful from the point of view of export competitiveness. It was also shown that the innovative activities undertaken by the firms play a critical role in building export competitiveness especially in the high-technology and medium-technology industries. It may follow from this that promotion of in-house R&D activity may yield rich dividends not only in terms of building local capabilities but also for strengthening their export competitiveness. Besides own technological effort of enterprises, imports of technology especially in embodied form also facilitate export competitiveness. Hence, a liberal policy towards imports of capital goods may act as a catalyst in export competitiveness. However, technology imports in a disembodied form such as licensing may not always facilitate export orientation given the tendency of technology suppliers to impose restrictive clauses in the agreements. In the high-technology industries in particular, building

export competitiveness on the basis of imported technology alone may not be easy. Therefore, policies should encourage technology importers to complement this with further sustained own technological efforts.

In general, the Indian affiliates of MNEs appear to be performing better than their local counterparts in terms of export-orientation. In the light of the findings of earlier studies relating to the pre-liberalization period of no significant difference in the export orientation of foreign and local enterprises, it would appear that reforms have prompted foreign MNEs to begin to explore the production potential of India as an export-platform in a modest manner. However, India has to go a long way to exploit the advantages of MNEs for export-orientated manufacture. In China, for instance, MNEs account for over 55 per cent of all manufactured exports (compared to just 3–5 per cent in India) and about 80 per cent of high-technology exports. But when it comes to high-technology industries, the domestic firms have shown a better export performance as compared to their foreign counterparts, contradicting the general perception that foreign firms may be instrumental in achieving export success in the high-technology segment of world market. It may be that the export decision and activity of foreign affiliates in Indian manufacturing is being restricted by the parent firms to ensure that the exports from India should not substitute exports from the home country and from affiliates in other locations, as was observed in the interviews conducted with the pharmaceutical industry firms. Here appropriate policy intervention to induce these MNE affiliates to use the country as an export platform by leveraging India's advantages such as large domestic market, abundant low-cost skilled manpower, among others, would be desirable.

The finding on the positive role of outward investment was further corroborated by the firm-level analysis indicating that overseas presence and visibility lend a critical edge to enterprises in their export effort by facilitating flows of market information and specific needs of particular markets and providing after-sales-services that are important aspects of competitiveness. Hence, facilitation of outward investment through credit availability among other measures may be desirable.

The findings also suggest a role of product differentiation in the form of brand building and advertising in strengthening export competitiveness at least in certain industries. Therefore, these activities of Indian enterprises need to be promoted by encouraging the non-price rivalry among Indian enterprises. The efficiency of resource use expectedly has a favourable effect on export competitiveness. Indian enterprises need to improve their efficiency of resource use to survive and prosper in the highly competitive world-trading environment.

Relatively older firms seem to have a disadvantage in building export-competitiveness in relatively high-technology industries presumably because of the need for greater flexibility, specialization, core competencies, and innovativeness that are crucial for succeeding in the international markets in these industries. Hence, entry of new highly specialized firms in high-technology areas may be facilitated by easy availability of venture capital and other facilities.

Fiscal incentives and tax concessions (as captured by the role of profitability) do play a role in prompting Indian enterprises to export. In a country with a large and relatively sheltered domestic market, firms without any incentives may not favour entering relatively uncertain and more competitive international markets. Furthermore, these incentives may also be required to compensate for the relatively high cost of capital and other inputs applicable in India.

A Strategic Perspective for Enhancing International Competitiveness

The industry studies in general highlighted the firm-specific, industry-specific, and economy-wide factors impinging upon export competitiveness and therefore there is the need for addressing each of these issues and to initiate appropriate actions. It is now appropriate to draw up the policy implications and highlight the action points for different actors (government, industry associations, and firms) in strengthening the export competitiveness of knowledge-intensive industries in India.

Promotion of Corporate Excellence and National Champions

Development of export-oriented manufacturing requires a combination of policies, prime among which are those strategically aimed at promoting excellence in the domestic corporate sector. Exporting is done at the enterprise level. Despite the many handicaps that industries may face in exporting, the RIS study finds a wide variation in enterprise-level export performance within any industry. Obviously, enterprise dynamism has a role to play in producing export successes besides various other factors. Hence, policies should help in nurturing world-class enterprises or *national champions* who could act as national flag-bearers in their respective sectors. They could be selected on the basis of their past performance in export markets, their professionalism, their innovative and brand-building capability, and potential to emerge as the leading enterprises internationally. They could be assisted in several ways by various official bodies to grow to world-scale and compete worldwide with their own brands and acquisitions. For instance, the financial institutions could provide them with assistance for preferential access to funds for overseas take-overs, for major expansion of production capacity; assistance for major

R&D and product development, brand-building and market development projects; support by Indian missions abroad in their market information and investment opportunities including leveraging Indian Exim Bank credit lines for securing market opportunities. In order to enable them to grow, they could be provided special privileges for accessing the domestic market, for instance, preferences in public procurement, assistance through non-tariff barriers, and tariff protection including protection from hostile takeovers by foreign firms, where possible. A number of developed countries have promoted their national champions to develop export competitiveness as a part of strategic trade policy initiatives.

Strengthening the National Innovation System

Firm's in-house technological effort emerges as one of the most important factors in shaping the patterns of competitiveness of enterprises especially in knowledge-intensive industries. The factors that impinge on the technological effort of enterprises in different sectors need to be better understood for promoting them and detailed studies on determinants of technological effort would further this end.

On the basis of observations during the field surveys and other studies, a few proposals for promotion of R&D activity are made below:

a. Supporting Enterprise-level R&D Effort

The policy framework needs to encourage R&D activity that is geared to building in-house capability for product and process innovation. An RIS study of determinants of R&D activity suggests that tax incentives as a means for promoting R&D activity to have lost their relevance.¹ They should be replaced now with more direct incentives such as R&D subsidies that are aggressively used by most of the industrialized and newly industrializing economies to promote the international competitiveness of their national firms. While the WTO regime sanctions most forms of subsidy, subsidies up to 50 per cent of the costs of R&D (and up to 75 per cent for basic research) are non-actionable. Further, in the case of direct subsidies, unlike tax allowances, it is possible to encourage the R&D effort of enterprises in desirable directions or fields. For instance, it may be used to promote capability building for new product or process innovations for local markets or internationalization rather than the customization of imported technologies and products. It is also possible to use direct subsidies to achieve other desirable objectives such as promoting industry's linkages with the publicly funded research laboratories and universities. These subsidy schemes, however, need to be designed with care so that the funds benefit the capacity building of domestic enterprises and minimize the leakage to foreign enterprises.

¹Kumar, Nagesh and Aradhna Aggarwal (2005), 'Liberalization, outward orientation and in-house R&D activity of multinational and local firms: A quantitative exploration for Indian manufacturing', *Research Policy*, 34(4): 441–60.

b. Protection of Domestic Technology

Beside promotion through subsidies, local technology-generation activity also needs protection to enable it to emerge—along the lines of an infant industry. This is because imported technology has several commercial attractions over locally developed alternatives, including its already proven nature and hence low risk and uncertainty; the availability of financing from suppliers; and the market power of well-known brands and trade marks that come with it. Given a liberal policy on technology imports, enterprises feel less inclined to invest in uncertain in-house R&D and prefer to meet their technological needs through imports. Under an alternative regime, technology imports would continue to be governed by a liberal policy such as automatic approvals as is in force currently because restricting them could possibly lead to technological obsolescence. However, the landed cost of imported technology could be increased through levies imposed on the payments for it, with these being returned to domestic enterprises conducting R&D. Furthermore, to encourage innovation, products based on indigenously developed technology could be allowed excise concessions (such as those extended to the products of small scale industry) and income tax concessions (such as those enjoyed by export turnover).

c. Simplifying R&D Promotion Schemes

The studies also highlighted that as of now there are a number of schemes initiated by the government to encourage firms to undertake in-house R&D activities. Nonetheless, the cumbersome procedures and delays involved tend to undermine the positive effects that these measures are expected to bring about. This is one of the areas wherein much soul searching by government is called for. The focus should also be on promoting a critical minimum effort in R&D units rather than creating small sub-critical units that may not yield any outcomes.

d. Promoting Industry Academia Interaction

In the field of innovation, experience in other countries points towards significant return to promoting the interface between academia and the industry. While the importance of the same is widely acknowledged in India, concrete action points are yet to be initiated.

e. Reaping the Spillover Benefits from Foreign R&D Centres

India's science and technology infrastructure coupled with the relative abundance of qualified but cheap R&D manpower has begun to attract MNEs for setting up global or home base augmenting R&D centres. In the past five years, nearly 115 MNEs have set up R&D centres in India and most of them operate in the fields of knowledge-intensive industries. Such R&D centres have their costs and benefits. By attracting skilled manpower from domestic firms, because of the more

attractive packages offered by the foreign firms, they might act as a major source of brain drain. At the same time by working in frontier areas of knowledge they also act as instruments of skill formation in the country and sources of potential spillover benefits. It is therefore important that the government has appropriate policies to reap such spillovers for the domestic industries. Here it is worth considering the offer of a special incentive package and venture capital funds for the employees of such R&D centres for setting up new industrial or R&D ventures. Such patent regime has proved highly successful in East Asian countries such as Japan and South Korea in spurring an innovative culture.

f. Promoting Innovative Rivalry through a petty Regime

In order to spur a rivalry through innovation of domestic firms, it is worth considering adopting a petty patents or a utility patents regime which provides limited protection to minor incremental innovations made by enterprises and spurs inventive activity. Such patent regime has proved highly successful in East Asian countries such as Japan and South Korea in spurring an innovative culture.

g. Adapting to Stronger Patent Regime

WTO's TRIPs Agreement is leading to stronger patent laws especially the introduction of product patents in chemicals and pharmaceuticals industry from 1 January 2005. The Indian pharmaceutical industry has so far been able to grow with only process innovations. However, in the changed circumstances, it needs to gradually upgrade its capability in favour of product innovations. Enhancing the general awareness relating to procedures involved in patent registration, providing access to the database on patents and also the institutional arrangements for creating a patent culture in both the industry and research organizations are essential.

The patent system needs to be streamlined and strengthened. There are instances where companies have acquired the US patent but they are waiting for the Indian patent to be granted. Industry sources also suggest that the modern medicine system in alternative medicines needs to be introduced. China has developed a huge export market by introducing modern systems in the alternative medicines. India also has a vast potential here, which needs to be tapped.

h. Role of Industry Associations and Firms in Strengthening Innovation System

In the new environment, the role of government may be seen as that of a facilitator and crucial initiatives have to come from industry associations and firms. To begin with, the industry associations could play an important role in creating a culture of innovation among its members.

Given the large investment needed and risks in modern industrial R&D, the industry associations could foster collaborative R&D among its members in order to minimize risk. Such collaborative R&D could

arrest the brain drain from Indian firms to foreign R&D units. The associations could also play a crucial role in fostering greater interface with the academic institutions and also in making the R&D activities more application oriented. In addition, in the context of the changing intellectual property regime, the associations are better placed to inculcate a patenting culture and patent facilitation. On the whole, in the emerging competitive environment, the industry associations need to transform from lobbying organizations to catalysts of innovations.

Promotion of Outward Investment

Outward investments by Indian enterprises have been found to critically impinge on their external competitiveness especially in knowledge-intensive industries. Indian enterprises should be encouraged and assisted to acquire enterprises abroad to fill the gaps in their capabilities such as technology, brands, skills, and access to markets.

Government policy needs to further support and encourage the setting up of overseas production and/or distribution operations centres (and even R&D centres). One such step can be a special investment tax credit scheme for business fixed investment abroad in plant & equipment and buildings (also in case of acquisitions). For promoting outward FDI some specific geographical area can be chosen for 2-3 years for concerted focus (as under the MDA schemes); subsequently some other area(s) can be selected as the focus area.

In promoting outward investment, the industry associations, along with the Indian embassies abroad could provide the market intelligence along with investment opportunities and other relevant information. Given the emerging importance of outward investment, the leading associations could consider a separate division to provide the necessary guidance and information for the prospective investors.

Attracting Export-oriented Foreign Direct Investments

Inward FDI policy needs to be tuned to exploit the potential of export-oriented FDI. In China, for instance, FDI accounts for nearly 55 per cent of China's manufactured exports and as much as 80 per cent of high technology exports. In India, this proportion is marginal at 8-10 per cent. RIS studies have shown that export-oriented FDI is driven by factors other than domestic market-seeking FDI.² What is needed is a combination of proactive promotion, incentives structures, and selective policies to prompt MNCs to make India a global or regional production hub. RIS studies have shown that export obligations can be effective tools for promoting manufactured exports by MNCs in countries with large home markets, such as India.³ Such obligations are fully consistent with the WTO rules.

The economic reforms in general and liberalization of FDI policy in particular have affected

the magnitude and pattern of FDI inflows received by India. However, the magnitude of FDI inflows received by India would appear too small, especially if compared with inflows received by other countries in the region such as China (around \$60 billion in recent years) although it must be pointed out that the figures of FDI inflows into India and China are not comparable because of several measurement problems. After taking into account these issues, the difference in FDI attracted per unit of GDP does not appear that substantial. However, there is a major difference in terms of quality of FDI. A recent study shows that a substantial proportion of FDI in the post-reform period has gone to services, infrastructure, and relatively low-technology intensive consumer-goods manufacturing industries. In China, in contrast to India, FDI is concentrated in export-oriented and high-technology manufacturing industry and has come largely in the form of greenfield ventures. Thus FDI is largely responsible for China's emergence as a manufacturing hub of the world. Multinational enterprises (MNEs) have built thousands of factories which churn out goods for the world markets and in that process created millions of jobs. This way the benefits of globalization have affected the lives of common people and a trickle down has taken place.⁴

Export-oriented FDIs in knowledge-based industries also have other favourable externalities of information on export potential for domestic firms besides transfer of world's best practice technology to the host country. They crowd-in domestic investments by creating demand for intermediate goods. They help the manufacturing sector as in India with the global production networks of MNEs.⁵ Here, our ability to offer to MNCs access to a large and expanding domestic market besides other resources such as low cost but high quality human resources needs to be leveraged effectively for FDI consideration of India as a base for export-oriented production.

In this context, the experience of Southeast Asian countries such as China, Malaysia, Korea, Thailand in channeling FDI into export-oriented manufacturing deserves careful consideration. These countries have also made huge investments in the development of infrastructure in special economic zones and the economy at large increasing the attractiveness of these locations. Second, they have employed selective policies and imposed export-performance requirements at the time of entry to prompt MNCs to exploit the potential of the country for export-oriented manufacturing. India's own experiences with export performance requirements—directly or indirectly—have been successful in inducing MNEs to exploit India's potential for export-oriented production in the food processing and auto industry.⁶ For instance, indirect export obligations in the form of dividend balancing have been imposed for enterprises producing

²Kumar, Nagesh (2002), *Globalization and the Quality of Foreign Direct Investment*, Delhi: Oxford University Press.

³Kumar, Nagesh (2005a), 'Performance Requirements as Tools of Development Policy: Lessons from Experiences of Developed and Developing Countries' in Kevin Gallagher (ed.), *Putting Development First: The Importance of Policy Space in the WTO and International Financial Institutions*, London: Zed Press: 179-94.

⁴Kumar, Nagesh (2005b), 'Liberalization, Foreign Direct Investment Flows and Development: Indian Experience in the 1990s', *Economic and Political Weekly*, 40 (14, 2 April): 1459-69.

⁵Kumar, Nagesh and Jaya Prakash Pradhan (2005), *Foreign Direct Investment, Externalities and Economic Growth in Developing Countries: Some Empirical Explorations*, in Edward M. Graham (ed.), *Multinationals and Foreign Investment in Economic Development*, London: Palgrave, 42-84.

⁶See Kumar, Nagesh (2005b). *op. cit.*

primarily consumer goods (withdrawn since 2000) seem to have worked. Under these policies, a foreign enterprise was obliged to earn the foreign exchange that it wished to remit abroad as dividend so that there is no adverse impact on the host country's balance of payments. Sometimes a condition of foreign exchange neutrality has been imposed under which the enterprise is required to earn foreign exchange sufficient to cover the outgo on account of imports. Therefore, these regulations have acted as indirect export obligations prompting foreign enterprises to export to earn the foreign exchange required by them. To comply with the foreign exchange neutrality condition, foreign auto majors have exported auto components from India; this not only opened new opportunities for Indian component manufacturers but also led to profitable opportunities for sourcing competitively priced components for MNEs. Exports of auto components from India are now growing at a rapid rate that exceeds the obligations several times over. These regulations have acted to remove the information asymmetry existing in the minds of auto majors about the poor quality of Indian components. In that respect, India's experience is very similar to that of Thailand, which has emerged as the major auto hub of Southeast Asia.⁷

Another policy in this regard is the pioneer industry benefits to major investments made by MNEs in certain areas that have high externalities or spillovers in terms of development of new industries, as granted by some Southeast Asian countries like Malaysia. For instance, the development of electronic hardware industry in India could be revolutionized by a major investment by one of the leading chip manufacturers in the country in chip making. Policymakers should identify such pioneer industry projects and attract relevant MNEs to participate in them on a proactive basis.

Firm Size, the Small Scale Industry Policy, and Industrial Clusters

The empirical findings highlight the role of firm size in determining competitiveness upto a certain threshold. Given the fact that Indian manufacturing firms are predominantly small in size, the policies that recognize the importance of firm size are clearly desirable. Policies that support small size firms by designing and implementing programmes to ensure their access to required information on export opportunities, providing technological supports, and greater access to credit markets and export distribution channels may help in enhancing the export potential of the sector. It also follows from this that some consolidation of smaller Indian firms may be useful from the point of view of export competitiveness. The policy of small scale sector reservation, which enables any foreign large scale enterprise to compete with Indian small scale units through exports but prevents domestic large scale enterprises to compete with them, needs a relook. The principle of providing protection to small

enterprises may have merit for development of entrepreneurship and generation of jobs. However, with the trade liberalization and hence entry of foreign exporters, the policy needs to be fine tuned to the new realities. Rather than entry protection, small enterprises may be assisted in a number of ways with the marketing support, purchase preferences, subsidized credit and other incentives, etc. Furthermore, SMEs are often unable to capture market opportunities, which require large production quantities, homogenous standards, and regular supply. They also experience difficulties in achieving economies of scale in the purchase of inputs (such as equipment, raw materials, finance, consulting services, etc.). Their scale of operation prevents them from the achievement of specialized and effective internal division of labour that fosters cumulative improvements in productive capabilities and innovation. Experience in other countries has shown that a strategy of developing industrial clusters enables the small firms to overcome these constraints that impact their export competitiveness. Hence most of the issues the performance of the small and the medium enterprises could be addressed by promoting industrial clusters. The industry associations could play a key role in promoting such clusters.⁸

Export Promotion and Facilitation

a. Promoting Brand Equity

An important area that needs attention is marketing and promotion of Indian brands in foreign markets. Direct overseas marketing and distribution may be quite expensive and difficult, as the marketing barriers are high. Companies are spending heavy amounts under these headings but these have not proved to be export enhancing. In the recent past, a few large firms have resorted to marketing and/or brand name agreements; the export of product under the collaborator's brand name (as in the case of automobiles). However, we must aim to establish our own brand names globally. This is an area where the private sector partnership with government is likely to pay rich dividends.

b. Marketing Assistance

Government can play a proactive role by providing direct assistance to the industry in marketing. It may help in establishing export networks that allow firms to target foreign markets. Such programmes are quite successful in British Columbia, New Zealand, and Australia. Indian embassies across the world may collect information on issues such as guidelines for licensing and registration procedures, and local production level. Such networks could collect demographic data and statistics on healthcare systems, health indicators, prevalent disease patterns, etc. needed by the pharma industry. Greater incentives may be devised for exports and branding for products-based indigenous efforts. Also there should be special incentives for component

⁷ See Kumar, Nagesh (2005a). *op. cit.*

⁸ RIS (2006), *Towards an Employment-Oriented Export Strategy: Some Explorations*. New Delhi: Research and Information System for Developing Countries.

exports to original equipment manufacturers (OEMs) in industries like automobiles and electronics as these exports involve stringent quality norms which improve the firm's brand equity, thereby enhancing exports in future.

The study, therefore, recommends the setting up of window show casing centres for products especially made by the SMEs, as in China, where the potential importer can have a good idea of the range/price/source of product. Government, in addition to facilitating the organization of trade fairs, can provide financial assistance to firms for participating in international trade shows and foreign travels. Firms seek a support mechanism for concessional airfare for export promotion trips (including trade fair participation) and concessional rates of interest. Though the government has schemes of concessional airfare, many firms are not aware of them. The industry associations could play an important role in disseminating such information to its members and also in ensuring greater participation of Indian firms in the international trade fairs.

c. Export Credit and Export Regulations

The industry in general would also welcome a lower interest rate on export credit. Industry avails the facility of Rupee Packing Credit (RPC) from banks for facilitating the exports of goods to be made by the exporters. The RPC rates should be uniform across the financial sector and should be linked to a more realistic parameter such as the bank rate of 6 per cent or repo rate (daily rate published by RBI) of 4.50 per cent plus 75 basis point spread as applied in Foreign Currency Packing Credit (FCPC) for the particular period. This would help the exporter to plan and access such funds at a more realistic cost and consequently price the firms product more competitively in the international market. RBI should advise/assist the relevant banks in arranging and managing the foreign currency funds in such a way that it eliminates any kind of scarcity of such funds and the same is available to the exports community on demand.

An equity fund may be created at the EXIM banks to participate as minority partners upto 24 per cent in export-oriented projects for companies with equity capital between 5 crore and 100 crore. This would be similar to the state-funded Industrial Investment Corporation rules in sponsoring more projects within the states through joint venture.

Further suggestions include revision of Duty Entitlement Pass Book (DEPB) rates, simplifying procedures for DEPB, extending validity for DEPB by six months, adding more products to the custom duty concessions, providing greater tax benefits.

Regulatory requirements, international rules, complex trade procedures, outdated banking laws, and government bureaucracy result in high exporting costs. Control measures from Directorate General of

Foreign Trade (DGFT)/customs/central excises need to be minimized to the extent that they should only help the exporters rather than harass them.

Export procedures need to be simplified and E-connectivity could be used to avoid delay, paper work and discretion. The government may extend technical and financial assistance in the registration procedures, which involve considerable resources and time.

d. Conforming to International Standards

In all the high-technology areas the first step towards entering the world market is to ensure that the products are in conformity with the standards prescribed by the importing countries. More often than not standards vary from country to country and that in turn calls for investment in testing facilities beyond the reach of many of the producers. In this context, a two-pronged action could be undertaken by the government or jointly by the industry associations. First, common testing facilities may be set up which may be made use of by the prospective exporters. Second, there is the need for assessing the present situation with respect to the compatibility of our standards with those of prospective importers and enter into mutual recognition with regard to standards and conformity assessment activities. There is also the need to bring together the standards and export inspection bodies of major trading partners to work together for harmonization and mutual recognition of conformity assessment procedures.

Public-Private Partnership for Infrastructure and Human Resource Development

Another finding shared by the case studies related to the infrastructure problems and resultant high transaction costs for the enterprises relative to their competitors. For instance, bottlenecks in the availability of air and sea cargo space and high charges feed into uncompetitive pricing, missed foreign buyer deadlines, and cancellation of repeat ordering. Similarly, long delays in accessing utilities like electricity and water connections during business start-up or expansion raise production costs and wastage of management time. Therefore, a general improvement in infrastructure facilities is likely to contribute towards enhancing competitiveness. This might call for public private partnership and also commercialization/privatization of infrastructure parastatals and put in place an effective regulatory framework.

Similarly, while the government by national investments in education and training could help to ensure an adequate supply of skilled manpower, to supply the skills required by specific industries, the industries associations, jointly with the academic institutions and government, could consider the setting up of training institutes to fill up the skill gap faced by different industries. Since there are a large number of

⁹Regionalism with an 'Asian Face': An Agenda for the East Asia Summit, *RIS Policy Brief No 28*, 2007, RIS: New Delhi.

industrial training institutes already set up in the country, the industry associations could also consider adopting some of them and restructuring these institutions according to their requirements.

Strategic Access to Markets

Finally, strategic access to markets has become an important factor of competitiveness. It is pushing countries all across the world to seek and establish Free Trade Agreements (FTAs) and Regional Trade Agreements (RTAs) to get preferential access to markets. India has over the past few years taken steps to evolve such arrangements with ASEAN, Thailand, Singapore, Mercosur, GCC, and is part of emerging SAFTA and BIMSTEC FTA. As a part of its Look East Policy adopted in 1991, India has engaged ASEAN countries, Japan, South Korea and China. Currently negotiations are on for FTAs or comprehensive economic partnership arrangements with each of these countries. India has begun to see

these engagements as building blocs of a vision of a broad pan-Asian Economic community which could be evolved in a phased manner. In that context, launch in November 2005 in Kuala Lumpur of a new forum, viz. East Asia Summit (EAS) bringing together ASEAN 10, Japan, China, S. Korea, India, Australia and New Zealand is an important initiative. At its second session held in January 2007, at Cebu, EAS launched a track-II study to examine feasibility of a comprehensive economic partnership of East Asia (CEPEA) covering all EAS member countries. CEPEA, by giving to India as preferential access to some of world's largest markets, could be important for its position in the international division of labour.⁹

These are some of the policy measures that could go a long way in strengthening the international competitiveness of Indian enterprises especially in the knowledge-based industries and make their presence in the global markets more visible.

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