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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

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Issue paper I

MEASURES TO IMPROVE THE INTERNATIONAL COMPETITIVENESS OF THE CAPITAL GOODS INDUSTRY IN LATIN AMERICA AND THE CARIBBEAN REGION*

Prepared by

the UNIDO Secretariat

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I. THE CRISIS OF THE CAPITAL GOODS INDUSTRY IN LATIN AMERICA AND THE CARIBBEAN

1. The capital goods industry in Latin America and the Caribbean is in a serious crisis characterized by inability to compete effectively in the international market, under utilized installed capacities and obsolescent products and technologies. Revitalization of the industry requires a critical analysis of the problems afflicting this sector and implementation of measures aimed at reversing the current deterioration.

2. In the past, Latin American and Caribbean countries applied various strategies and instruments to promote development of the capital goods industry. Many countries followed an import substitution industrialization strategy, while at the same time permitting duty free importation of capital goods. Promotional measures specifically directed towards the sector included preferential public sector procurement policies, special lines of credit to finance investments and marketing and imposition of non-tariff barriers.

3. The increased availability of international credit following sharp increases in oil prices in the early 1970's, coupled with development policies that emphasized heavy public sector investments, had the effect of stimulating a massive expansion of installed industrial capacities. The public sector presence grew in the form of new enterprises and in some cases even nationalization of existing facilities. Protectionist attitudes developed in favour of these public firms and production volumes increased rapidly in the context of guaranteed domestic markets.

4. Changing global economic trends exerted pressure on countries to change development policies in favour of import liberalization and privatization. These changes occurred in relatively short span of time with Governments relaxing drastically their direct control of national economies. The excessive external debts compounded the problem as interest rates rose steeply resulting in negative flows of financial resources from the region. Governments reacted with sudden policy reversals by taking measures such as suspending all new investment projects, slowing implementation of ongoing projects and deferring payment for work completed on goods and services previously supplied.

5. The scarcity of financial resources in the region, also encouraged the purchase of capital goods from sources outside the region where favourable financial terms were offered. Available external credits were used to purchase new machinery and equipment even though some of these could be produced locally with modest investments for repair, maintenance and modernization.

6. In effort to diminish the debt burden, Governments sold off public firms to raise capital and reduce expenditures. Preferential treatment of local firms was also curtailed and countries opened up their economies through reduction of tariff levels, elimination of non-tariff barriers, abandoning compulsory national purchasing provisions for the public sector and removal of discriminatory treatment against foreign investors.

7. These factors have had a devastating impact on capital goods producers in the region who suddenly had to struggle for survival in an environment characterized by:

a) reduced levels of activity linked to abrupt disappearance of their principal buyers;
b) severe cash-flow problems resulting from non-payment of receivable accounts from Governments, public and private sector customers facing liquidity problems of their own;
c) very high inflation;
d) intense competition from foreign suppliers able to offer better financing packages to purchasers of capital goods;
e) necessity to provide for their own financial needs to meet obligations resulting from maturing credits taken in the era of rapid expansion and easy credit.

8. With decreased sales revenues capital goods producers have found it virtually impossible to secure funds for investments in modernization and retraining of personnel. This has contributed to the current technological obsolescence of the sector throughout the region.

9. These complex circumstances that have prevailed in the region since the early 1980's have created a serious and multifaceted crisis for the capital goods industry as a whole. Its very survival is in jeopardy. Yet the strategic role of this sector in industrial development is well recognized. What appears to be lacking is a clear vision on how to reconcile the seemingly conflicting requirements for sustaining a national capital goods industry while simultaneously encouraging free flow of technology, goods and services from external sources. Efforts to sustain the capital goods sector should be aimed at raising the international competitiveness of the industry so as to enable local firms compete effectively with foreign suppliers.

10. The crisis faced by Latin American and Caribbean capital goods producers has been further aggravated by the technological changes at the global level affecting the industry as a whole. The increasing applications of flexible automation technologies in the capital goods sector are altering the rules of competition in the international market. Examples of such flexible automation technologies are computer-aided-design and computer-aided-manufacturing (CAD/CAM) systems and various configurations of flexible manufacturing systems (FMS). Apart from these technological changes, organizational innovations based on Just-In-Time principles have found wide applications in the capital goods sector worldwide.

11. Historically, while reverse engineering has contributed to the development of the capital goods sector especially in Argentina and Brazil, the main technology transfer routes have been through joint ventures, foreign investments and licensing arrangements. The financial squeeze has made it difficult for capital goods producers to enter into new licensing arrangements incorporating technological advances. The economic crisis has discouraged foreign investments. The reluctance of major international firms to licence their latest technologies at affordable rates has further compounded the problem. The capital goods producers in the region also lack expertise in the new organizational techniques. Application of these new techniques require a national and regional integrated approach since their success depends on factors both within and outside the control of individual producers.

12. Competitiveness in the capital goods industry is now governed by factors such as quality, delivery time and ability to continuously introduce new innovations into the market. While price is still important, these new factors are equally relevant. With the flexible automation technologies and organizational techniques, international capital goods producers are able to respond rapidly to market changes. Restructuring of the capital goods sector in the region will necessitate measures to increase its capacity to respond effectively to the new competitive factors.

13. Evidently the problems facing producers are far too difficult to be addressed only by individual enterprises. In addition to those actions that could be taken at the firm level, collective actions at the national and regional levels are absolutely necessary if adequate solutions are to be found in pulling the industry out of the current crisis.

14. The same predicament faces research and development institutions: investments in R & D entail heavy financial risks due to increased vulnerability of results to the emergence of alternatives that are continuously introduced in the market and which are supported by more powerful marketing systems. Timely and significant market presence has become a synonym for survival in the industry. Where there are R & D institutions intended to support the capital goods industry, ample scope still exists in forging closer association between industry and those institutions. Co-operation among R & D institutions at the regional level possibly through joint programmes, exchange of experiences and networking arrangements is essential if these institutions are to have a wider impact on the development of the sector.

15. The precarious situation in which the capital goods producers find themselves raises the question as to whether the region can afford to let this key sector, which took so many years to develop, to be allowed to disappear in the face of international competition. Failure to take remedial effective action may lead to its extinction and thus increase the technological dependency of the region. To prevent such a catastrophe, measures to increase and sustain the international competitiveness of the sector have to be articulated and action taken in implementing them. Regional co-operation will be a key element in these new measures, given scarcity of financial resources and limited national markets especially in the smaller island countries.

II. ELEMENTS OF A STRATEGY TO IMPROVE INTERNATIONAL COMPETITIVENESS

16. The need for the capital goods industry in Latin America and the Caribbean region to attain international competitiveness acquires greater urgency with increasing trade liberalization and rapid technological advances. Whilst capital goods producers in the region recognize the need for international competitiveness, the measures required to ensure sustainable competitiveness have not always been fully conceptualized and acted upon. Furthermore, competitiveness as an industrial goal has tended to be defined in narrow terms. A comprehensive definition of competitiveness as it applies in the international market is essential for the identification of measures necessary in building and sustaining a dynamic domestic capital goods sector.

17. The international competitiveness of the domestic capital goods industry gives a measure of the relative position of producers in a particular country in comparison with competitors in the international market. Competitiveness may be measured in different ways: market share, productivity, or by some factor which indicates a preference to buy one product or service over another. Whichever indicator is used for competitiveness, comparison with competitors is always necessary and it is, therefore, critical to identify relevant competitors.

18. Competitiveness is a dynamic phenomenon. Success and survival in the international market are based on a firm's ability to achieve a sustainable competitive advantage. Competitive advantages are based on customers' values, which have to be derived from the relevant success factors in the respective market segment. The better customers' values are matched, the higher the relative price or market share and the more profitable the firm. Customers' values change with time and firms that are able to respond effectively and rapidly to those changes are more likely to remain internationally competitive.

19. One difficulty faced by new entrants into the sector is on the selection of what types of capital goods to produce locally. The extremely wide range of products manufactured by the capital goods industry makes the selection process rather complex. The conditions of entry into production of different types of capital goods also vary widely and many countries face difficulties in fulfilling those entry requirements. This has led to wide disparities in the state of development of the capital goods industry among the countries. Some countries rely almost entirely on imported capital goods whilst others have tried to achieve self-sufficiency. Capital goods manufacturing is important for all countries since this sector provides the means of production that are essential for all economic activities. Yet endeavouring to attain self-sufficiency in the capital goods sector may be neither desirable nor realistic. Indeed international trade plays a significant role in the sector. What is required is targeting specific capital goods markets and plan to attain competitive advantage in those markets.

20. Target markets should be analyzed and entry must be planned with due consideration on requirements for marketing expenses, sales forces, distribution networks, advertising, etc. The target market may be defined geographically or according to criteria such as target groups or product functions. Different market segments may require products manufactured at different levels of quality. Different market segments require different product specifications, use different marketing approaches, employ different production tools and have different competitors.

21. Competitors are relevant within the same market and the same market segment, and to identify the relevant competitors it is necessary to define the target market. There is sometimes a tendency to define target markets by looking at the market side only. This may not give the complete picture since it is only the combination of a product/market segment that shows the relevant determinants of a particular segment. Capital goods production is often based on independently manageable strategic business units (SBU's) consisting of relatively homogeneous product/market segments. A firm producing capital goods can have one or more SBU's, allowing autonomous planning processes and judicious cost and investment allocations. Strategies and activities of one SBU can and should be considered independently of other SBU's.

22. Established SBU's are the entities with which to compete and not necessarily entire firms. Competitiveness of a SBU results from optimal supporting and operating activities ranked in accordance with customers' values. International competitiveness requires comparison with SBU's from other firms operating in the global market.

23. There are no standard success factors for SBU's but there are important groups into which factors can be classified (such as quality, price and delivery time). Success factors may be ranked within a product/market segment, however firms have to be alert to changing customers' values that may significantly alter such rankings. It is thus important that periodic surveys be conducted for different product/market segments so as to determine relevant success factors. A regional mechanism for undertaking such surveys is a fundamental prerequisite for developing viable SBU's and improving international competitiveness of the industry.

24. State intervention in various forms aimed at improving the competitive position of the domestic capital goods industry in relation to the international environment has been undertaken by a number of leading world producer countries. The interventions sought to influence production factors such as the cost of capital and labour or even erecting trade barriers. Changing circumstances in the global marketplace characterized by increasing mobility of capital and skilled labour have necessitated a re-evaluation of the role of such factors of production. It has become increasingly apparent to the leading producers that basing a comparative advantage of the industry on those traditional factors often leads to highly unstable conditions. Other factors such as process innovations, knowledge and skills have become equally important. The promotion of innovations and continuous skills upgrading are of paramount importance in sustaining international competitive advantage in the capital goods sector.

25. Innovations however require financial investments. The paucity of financial resources for capital goods industries development in the region has continued to plague entrepreneurs. The situation is exacerbated by the installed over capacities in certain types of capital goods found in the larger Latin American and Caribbean countries, the general decline in investments and the debt burden. At the world level many market segments for capital goods show signs of saturation. There is thus enormous pressure exerted on capital goods producers to rationalize their activities, increase productivity as well as lower prices. In such a situation, entrepreneurs strive to reduce costs and improve productivity on the existing plants rather than introduce innovations in their products. Yet without continuously applying innovations it is virtually impossible to remain competitive in this sector.

26. The role of financing technological innovations is critical. The major actors in advancing technological innovations are universities and institutes of technological development and promotion. The work of these institutions needs to be closely associated with industry and financial institutions. A mechanism for industry and financial institutions to support research and development programmes is essential in facilitating technological innovations. Universities and institutes for technological development and promotion may also play a role in reverse engineering activities as has been the practice in other industrialized countries.

27. Business practices in the global capital goods industry have undergone fundamental transformations in recent years. Firms compete more on an international basis, buying and selling outside their own markets and forming alliances with firms in other countries in order to strengthen their export position. With the emergence of free trade areas like the North American Free Trade Area (NAFTA), the European Community and the European Free Trade Area (EFTA), market entry barriers have been lowered for producers in those areas. Actions at the national level continue to influence the competitive position of firms. In certain product/market segments, leading industries continue to be concentrated in specific countries. It is important to explain the relevant determinants that account for, say, the continuing leading position of certain countries in specific capital goods despite fierce competition from other countries. One explanation is the so-called determinants of national competitive advantage.

28. The four determinants of national competitive advantage that have resulted in some industrialized countries retaining leading positions for certain types of capital goods include:

a) Factor conditions: presence of traditional production factor inputs such as human resources, natural resources, capital and infrastructure. For the capital goods industry, advanced factors such as highly trained human resources and research facilities are more important than basic factors exemplified by natural resources and abundance of cheap unskilled labour;

b) Demand conditions: local demand conditions play a major role in encouraging local firms to produce internationally competitive products. Sophisticated and demanding local buyers of capital goods exert pressure on firms to have high standards and periodically improve their products through innovations. It should also be remembered that countries that gain international recognition in specific product/market segments tend to discourage competitors from other countries. The domestic market plays a key role as a starting point for establishing international recognition;

c) Related and supporting industries: The presence of industrial clusters comprising of related and supporting industries has been found to significantly improve competitiveness in the capital goods sector. Co-ordination between industries in a cluster dramatically improve efficiencies, facilitates rapid exchange of information and fast adoption of innovations;

d) Firm strategy, structure and rivalry: The strategies and structures of capital goods industries are influenced by national values and attitudes. Nations that attach prestige to science and engineering are more likely to generate industrial innovations and hence boost competitiveness. Competition among domestic producers is important in motivating firms to innovate.

29. Governments can influence all the four determinants of national competitive advantage. Thus Government policies are crucial in determining the competitiveness of capital goods industries. The Governments of Latin American and Caribbean countries have adopted differing approaches with limited success. The limited performance of the capital goods industry in the

region makes it imperative to seek new approaches in the development of the sector based on sustainable international competitiveness. A fundamental consideration in this respect is selection of which market segments should continue to be pursued by local firms. An approach based on capital goods industrial clusters chosen in accordance with the determinants for national competitive advantage may be considered. The following aspects need to be addressed for each of the determinants:

a) On factor conditions:

- analyzing whether favourable factors of production exist or could be promoted;
- promoting superior factor creation mechanisms for capital goods production (for example, specialized university research programmes, outstanding educational institutions);
- analyzing whether selective factor disadvantages are leading indicators of foreign circumstances.

b) On demand conditions:
- promoting a sophisticated and demanding domestic market for selected capital goods;
- identifying unusual national needs for capital goods that may be significant but likely to be ignored by competitors;
- stimulating user needs in anticipation of future requirements in other countries;
- promoting advanced distribution channels in accordance with international standards for the particular product.

c) On related and supporting industries:
- promotion of supplier industries in a cluster formation.

d) On firm strategy, structure and rivalry:
- developing management styles and organizational structures to match industry needs;
- adopting strategies for exploiting national norms of organization;
- motivating outstanding talents into the industry;
- matching investor goals with competitive needs of the industry;
- promoting domestic rivalry.

30. Another important element for sustaining competitiveness is the need to constantly review the strategic position of producers. There is a tendency to emphasize financial statements (e.g. balance sheets, profit and loss, etc) that reflect the past performance of firms without indicating the likely future competitiveness. Strategic planning requires systematic data collection and analysis regarding markets and technologies. This includes information on technological developments even outside specific product markets. Capital goods industry associations at the national and regional levels could play a major role in this respect as a service to producers.

III. ENVIRONMENTAL CONSIDERATIONS FOR ENHANCING COMPETITIVENESS

31. As a supplier of technologies and equipment to such diverse industrial sectors as petrochemicals, pulp and paper, iron and steel and food processing, the capital goods industry has a direct impact on the environment. Increasing consumer preference for environmentally-sound technologies and equipment has introduced a new competitive factor for producers of capital goods.

32. Development and adoption of technical standards for environmental protection has been an issue of concern for many Latin American and Caribbean countries. Some capital goods producers have responded with measures for implementing those standards by adapting production systems in order to make them cleaner, fitting filters for effluents and discharges, improving operating environments and protecting the health of their workforce and localities in which they operate. However, recessionary forces have recently led to declines in investments on pollution control equipment in certain sectors. High performing industries such as those of pulp and paper in Brazil, with international market to support them, have longstanding pollution control systems in place and invest only if and when they expand capacity. Other industries have not fared as well.

33. This sectoral environmental crisis is not caused by insensitivity to environmental problems on the part of the industry. On the contrary, there are clear signs of increasing environmental awareness throughout the entire region.

34. Several factors have helped to raise awareness of the importance of the environment to the general population among which the following may be cited:

a) development of chemical, steel, fertilizer and petrochemical industries, which have a high degree of potential for polluting the environment;

b) acute income and population concentration caused by the process of urbanization that resulted from the economic industrialization models adopted in the region. These models have led to expansions of agglomerations of substandard dwellings without minimum environmental infrastructure;

c) low levels of public health coverage, particularly as regards basic sanitation that has created conditions for certain diseases to remain endemic, while others associated with environmental deterioration have become more widespread;

d) medical advances that have eradicated several diseases and identified specific effects of pollution which were previously overlooked;

e) increasingly frequent environmental disasters due to indiscriminate use of certain products and raw materials;

f) deficiencies in economic theory, which has failed to define the environment as a scarce resource to be treated as such by the market, thus contributing to the spread of pollution to the extent that the entire population is affected.

35. While these factors have raised significantly the general awareness on environmental matters, more could be done with regard to developing and implementing measures directed towards producing environmentally-sound capital goods. For example, the capital goods industry could play a more active role in governmental programmes for pollution control. The industry needs to adjust to new requirements and offer technological alternatives to their customers. Non-governmental organizations could also build alliances with the capital goods industry with the objective to produce viable technological solutions that sustain development while protecting the environment. Promotional events such as fairs focussing on innovations in environmental technologies could provide opportunities for spreading knowledge and exchanging information among industrial firms, service providers and financial institutions. Environmentally-sound technologies should be promoted as an opportunity for sustainable industrial development.

36. The long-term competitiveness and hence survival of the capital goods industry in the region will depend to a large extent on its ability to meet international market requirements for environmentally-sound technologies and equipment. The "polluter pays" principle will continue to exert pressure on users of capital goods to opt for environmentally-sound technologies and equipment and thus alter the characteristics of the international market. Timely adjustment to these market changes is crucial for capital goods producers in the region. Governments could also play a role by adopting and implementing environmental regulations in line with international trends and thus accordingly restructure the domestic market for capital goods.

IV. FINANCING NEEDS TO FACILITATE INTERNATIONAL COMPETITIVENESS

37. Decisions to purchase in a region of scarce financial resources tend to be based on best sales terms often represented by soft loans tied to particular suppliers from foreign countries. It is therefore critical to develop alternative financing mechanisms for regional manufacturers to enable them compete with foreign suppliers on equal terms in the regional and international markets.

38. The region may benefit by assessing financial instruments used in some industrialized countries aimed at spearheading the development of the capital goods sector. Those instruments found to be relevant to the region should be adopted with necessary modifications as appropriate. The region should also explore the international financial markets in order to find ways of increasing access to those markets. In particular the operation of securement as a form of improving access to international financing should be explored in detail.

39. Participation in the international market is a sine qua non for ensuring competitiveness in the capital goods industry. Financial instruments geared towards promoting exports thus play a crucial role in enabling producers to establish a presence in the international market: such instruments which are essential for facilitating international trade include:

a) Bank guarantees

In international trade, bank guarantees are required to cover down payments and performance bonds for supplied goods for which full payments are required under sales contracts prior to expiration of warranty.

Local financing institutions provide bank guarantees in favour of the foreign importer on the basis of their knowledge and confidence of the domestic producer. A closer association of local commercial banks with capital goods producers in the region is crucial in establishing such confidence and thus facilitating issuance of bank guarantees to foreign purchasers.

b) Documents against payment

For exporters of capital goods that have well developed business relationship with certain foreign importers, banks can streamline their business transactions through the instrument of documents against payment. The relevant documents (which may include letters of credit, bills of lading, certificates of origin, insurance certificates, etc.) are processed through the local bank and submitted to the correspondent bank in the country of the importer. The purchaser then makes payment to the correspondent bank on being presented with the documents. The role of the banks is to facilitate usability of the documents in question in such transactions.

c) Letters of credit

Another important instrument that is widely used in capital goods international transactions is letters of credit. This form of financial instrument requires a highly developed business relationship between the local bank in the country of the exporter and a correspondent bank in the country of the importer. The correspondent bank authorizes the local bank to make payment in favour of the exporter upon presentation of specified delivery documents. Again the role of banks in ensuring usability of these documents is essential.

d) Medium- and long-term export financing

In practice exports of capital goods are generally not fully financed out of the exporter's or importer's own resources. The complexity of transactions, especially for major projects often involving several years of implementation, make it necessary to provide financing for both the purchaser and the seller. In a competitive world market, sellers of capital goods get supply contracts on the basis of their ability to provide attractive financing packages for the purchasers. Latin American and Caribbean producers of capital goods are particularly at a disadvantage vis-à-vis their foreign competitors when it comes to putting up competitive financial packages to foreign importers.

40. Instruments such as interbank credit lines for purchasers, financial and operational leasing can greatly improve the attractiveness of financial packages that regional capital goods producers could offer in the international market. Orienting the financial system in the region in favour of promoting exports, especially medium- and long-term export financing, will ensure compatibility with macroeconomic policies adopted by most countries on import liberalization and strengthening of the export sector to provide relief to the excessive debt burden.

41. Since financial resources in the region are limited, there is a need to develop mechanisms for gaining access to international capital markets. The relevant financial instruments for gaining such access may be classified as

debt certificates, equity or securement. To fulfill conditions for various instruments, it is also important to analyse the characteristics of investors, in particular the considerations which prompt them to purchase specific instruments. Regional firms seeking access to international capital markets should be aware of these investor considerations in order that they could adjust their profiles accordingly. Of particular relevance for regional firms are non-traditional financial instruments that tend to eliminate country risk elements. Examples of these are securement of trading operations. There is increasing evidence that the market for securement is increasing in general. This instrument has however not been used extensively in capital goods transactions although ample opportunities appear to exist.

V. FINAL CONSIDERATIONS

42. The crisis faced by capital goods producers in the Latin American and Caribbean countries calls for remedial measures that will improve their international competitiveness and thus enable them to compete effectively in the domestic and world markets. Among such measures the following should be considered:

(i) Development and transfer of technology
Measures to support technological development may include greater support to university research programmes and promoting centres of excellence for technology. Interface problems between industry and these institutions need to be addressed as well as their financing needs. The difficulties of technology transfer from industrialized countries require greater international cooperation, particularly with regard to acquisition of state-of-the-art technologies;

(ii) Stimulating industry modernization and thus creating sophisticated and demanding domestic markets that will motivate local producers to innovate;

(iii) Promoting industrial clusters for production of selected product/market segments of capital goods;

(iv) Promoting local competition among autonomous strategic business units;

(v) Adopting strategic planning based on systematic data collection and analysis regarding markets and technologies;

(vi) Increasing participation of capital goods producers in environmental protection programmes. Alliances with non-governmental organizations could be forged with the aim of producing environmentally-sound technologies;

(vii) Adopting and applying stringent environmental regulations for both local and foreign industrial entrepreneurs;

(viii) Strengthening regional co-operation in areas such as information exchange on supply and demand for capital goods. The impact of free trade areas and other subregional groupings will also have an impact on market access for producers;

(ix) Mobilizing regional financial resources: measures to ensure greater use of financial instruments including securement and leasing will need to be sought. The promotion of a regional capital goods development fund through pooling of resources could be considered.