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Issue paper II

THE ROLE OF THE STATE, INDUSTRIAL ASSOCIATIONS AND THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE CAPITAL GOODS INDUSTRY IN LATIN AMERICA AND THE CARIBBEAN*

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CONTENTS

INTRODUCTION

The present study will serve as a basis for discussion on the strategies, policies and agents for the present phase in the development of the capital goods industry in the framework of the Regional Consultation on the Restructuring of the Capital Goods Industry in Latin America and the Caribbean, to be held at Caracas. The prime purpose is to present options for policies that countries can adopt to improve the competitiveness of this industry.

The discussion is presented as follows. In the first section, the main trends in the direction of change in the economic environment of Latin America and the Caribbean are summarized. This point is emphasized because the various changes in economic policy that have taken place in the countries concerned and the predominant orientation towards more open markets at the present time represent a basic change of course in a fifty-year-old tradition of inward-oriented development.

In the second section, a detailed characterization is made of the policies inherited from this period in order to establish, in a rough way, their effects on the competitiveness of capital goods in the region. For this exercise, the "diamond" used by Professor Michael Porter to show the determinants of competitive advantage has been adopted as the main reference tool, as it allows the interaction between different determinants of competitiveness in the various countries to be evaluated succinctly. The main argument underlying the exercise is that, although the policies of import substitution permitted the emergence - and in some cases the vigorous emergence - of capital goods in the region, they did so at the cost of serious weaknesses in competitiveness because they disfavoured the main determinant: firm strategy, structure and rivalry.

The third section is concerned with the consideration of the new fields that are being created in the various countries as a result of the changes in the orientation of "inward development" to adjust it to the conditions of more open economies, inasmuch as this reorientation will be constantly reflected in the design of specific policies. These emerging fields are of three types. Firstly, there are the pressures for change in the enterprise, placing it in the eye of the storm of structural change. Secondly, there are the new forms of relationship between enterprises and the State which contribute to broadening the range of policies, as soon as the State ceases to be the centre of all action. Lastly, it is found that policies divide between those of universal application (horizontal policies) and those of particular application ("transverse" policies), depending on the specific features of the productive segments concerned.

This context is the starting-point for two explorations. In the fourth section, strategic elements are analysed on the basis of combining, on the one hand, two strategic options that present themselves in broad terms to enterprises and, on the other, phases that they may pass through as they mature with the passage of time following the major macroeconomic changes. In the fifth section, an analysis is made of varieties of policies and their possible "mixes" to improve the competitiveness of enterprises as these pass through the corresponding phases of maturation.

I. THE CHANGES IN THE LATIN AMERICAN ECONOMIC ENVIRONMENT

1. Times have changed radically for Latin American industry. Ten years ago, Latin America was caught in a debate between two major strategic options. One consisted in introducing changes in the economic model of inward-oriented growth which would make it possible to rescue what could be rescued from a long period of growth, adapting it to the new geopolitical circumstances and development conditions at the international level. The second involved drastic adjustments which, while achieving greater macroeconomic stability, would compel a thoroughgoing readjustment of production. As everyone knows, both options were tried.

2. During the transitional period of the 1980s, economic plans for "heterodox adjustment" saw the light of day in various Latin American countries (the "Cruzado" Plan in Brazil, the "Austral" Plan in Argentina, Alan García's plan in Peru) exploring "intermediate" routes of macroeconomic change in which an attempt was made to put the public finances in order while retaining the role of public investment as a source of dynamism, to return to the path of growth and to resume the renegotiation of national debts. We know the results: the countries that tried such plans aggravated their cycles of instability, and achieved neither one thing nor the other. The result was that the end of the 1980s saw the coining of the famous phrase concerning "Latin America's lost decade".

3. In the mid-1980s, some countries of the continent (particularly Mexico, but also Costa Rica and Chile, although in the latter case the process had begun much earlier) initiated a very important change of direction in economic policy, the essential purpose being a return to conditions of macroeconomic stability which would permit economic growth in more open economies, without the negative effects of inflationary turbulence or the systematic erosion of international reserves. From then on, in one country after another, processes of macroeconomic adjustment began to be set in motion which abandoned the heterodox approaches and started out from an orthodox focus on stabilization.

4. The set of policier involved is well known: realistic exchange rate policies tending in the direction of single exchange rate values which reflect the real value of currencies, positive real rates of interest, freeing of prices for goods and services and liberalization of external trade and foreign investment. Although the range of reforms is broad, the key to the changes has been based on exchange rate policies, which have made it possible to establish radically new relations with the rest of the world. As a second phase in the adjustment process, institutional and structural reforms have been initiated affecting other spheres: privatization of public enterprises running at a loss, reformation and opening up of financial systems, fiscal reforms and, in some cases, joint efforts in the direction of accelerated programmes for commercial integration (Mercosur, the Galapagos Agreement of the Andean Pact, bilateral agreements, etc.).

5. This change in the profile of economic policies has not passed unnoticed in Latin American industry and, in particular, in the capital goods industry. This sector grew visibly between 1965 and 1980 (ECLAC, 1991), but during the 1980s it showed a clear downward trend, reflecting first the effects of economic stagnation and later those of the turbulence caused by the adjustment process. The decline in the growth of the capital goods industry is not

attributable solely to the change in policies nor has it occurred in the same way in all countries. The weakening of this industry would seem to have proceeded in two stages: a first stage characterized by a loss of dynamism as a result of the macroeconomic problems affecting investment (let us not forget that there was a net outflow of capital from the region); the second consisted mainly in a loss of competitiveness - especially on the domestic market - as a result of the erosion of the advantages accumulated in the past.

6. Simultaneously with the initiation of this abrupt change of direction, at the national and regional level, towards liberalization, with the aim of changing inward-oriented to outward-oriented growth, trends have been reinforced in the rest of the world in the direction of the globalization of business operations and of markets. As part of this process, and continually reinforcing it, the impact of new generations of technologies (especially those based on electronics) has been felt with increasing force on production practices, bringing about a change, since the 1970s, in the branches that are growing more strongly around the world and those that are declining. In the new context of production, advantages for competing are also changing; natural resources are losing importance as the main determinant of country advantages, with the emphasis moving to other factors such as human resources, innovative capacity and being in tune with changes in the market. The great truths of traditional management have also changed, leading to the achievements of new generations of firms, mainly Japanese firms, which realize their competitive potential by capturing increasing proportions of international markets through their greater response capacity, their long-term vision and their stress on quality and human resources as new organizational routines. As was to be expected, the firms of most countries are at the present time confronting a much more competitive environment and the increasing need to open up to the outside world in order to be able to survive and grow. Latin America is now no exception.

7. It is thus necessary to differentiate in Latin America between two periods in regard to industrial development policies: before and after the adjustment processes. The general thrust of the policies, the importance assigned to the State in the process, the instruments used and the level of articulation between them are different in these two stages. Naturally, the role of the different social actors involved also varies from context to context.

II. CHARACTERISTICS OF THE POLICIES OF INWARD-ORIENTED GROWTH AND THEIR IMPACT ON CAPITAL GOODS

8. The capital goods industry in Latin America began in a spontaneous way, particularly in the countries with larger markets (Brazil and Argentina). During the 1950s, a start was made with policies of industrial promotion as a result of the regulation of imports by means of tariff barriers, in order to avoid destabilization in the countries' balance of trade. Later, combined with the original intention of avoiding balance-of-payments problems there was a policy of protecting sectors that had shown greater dynamism during the preceding period, and these measures were strengthened and integrated in articulated programmes during the 1960s and 1970s in the larger countries, and in the 1970s and 1980s in the medium-sized and small countries. Table 1 present a summary of the policies adopted by the majority of the countries and

the advantages and disadvantages arising out of their application. The rest of this section contains a summary of the logic of application of the various policies, their articulation in integrated strategies and their impact on the competitiveness of enterprises.

9. Advantages and disadvantages of the "inward growth" policies. It would seem clear that the initial development of capital goods, at least in the largest countries, took place without any kind of protection (Vidossich, 1973; N. Leff, 1968). Later on, as a result of the State sector becoming one of the main purchasers and, in some cases, the key purchaser, State purchase mechanisms were established to make it possible to guarantee markets for the products already developed within longer time frames, a policy which gave greater transparency to the market; purchases by public enterprises also contributed towards higher levels of specialization, to the extent that supplies of local origin gradually became stabilized. In this area, the results improved when the large purchasing enterprises became conscious of the desirability of developing their suppliers for strategic reasons of their own, rather than this being imposed on them. Systematic financing plans were also developed which made capital cheaper, so that barriers to entry in certain markets could be overcome. In a general way, relative profitability advantages were encouraged. In the countries producing steel and other semi-processed materials, policies were adopted and negotiations initiated with the aim of ensuring that the inputs could be supplied at suitable prices, permitting a transfer of profitability from the public sector to the private sector and a guarantee of supply in the medium term. In regard to human resources, conventional policies were pursued - that is to say, policies directed towards training professionals and skilled workers in traditional trades (turners, milling machine operators, welders, foundry model-makers, etc.). Some countries adopted quite proactive and successful policies aimed at promoting exports, especially those countries which had already followed a path of expansion, relative specialization and adaptation of products to local markets (see D. Chudnovsky and others, 1984).

10. For its part, technological development, crucial in any capital goods industry, did not show an upward trend, mainly because competitive pressures were low and the most common strategies were either the adaptation of products to certain local requirements or the signing of agreements (licensing, trademarks, direct investment) with foreign enterprises. The process also depended on the general conditions of industrial development in the countries concerned: availability of professionals and specialized institutions, support from purchasing enterprises in terms of design and redesign requirements, etc.

11. In regard to the general philosophy, it may be noted that these inward growth policies were followed in many of the developing countries in other latitudes that have emerged as capital goods producers, at least during the initial period. This is the case of countries like the Republic of Korea, India, the People's Republic of China and Taiwan. However, in the mid-1960s an important differentiation appeared within the general pattern, associated mainly with a different approach to exchange rate policy. Countries like the Republic of Korea, Taiwan, Singapore and Hong Kong attempted growth strategies based on a competitive exchange rate in order to develop a pro-export bias. Thus use was made of the initial advantages produced by various decades of inward growth. The exchange rate approach was accompanied by very decisive

action with regard to the development of human resources at all levels, more especially in engineering and specialized trades. Similarly, heavy subsidies for exports (by financial means) were introduced and specialization was promoted with the expansion of the domestic supply of specialized steel products (see "Corea: V Plan" in L. Vivas, 1985). No less important were the strategies for strengthening large industrial clusters (in the case of the Republic of Korea) and subcontracting links with the Japanese market.

12. If we take stock now as this Regional Consultation is taking place, the exchange rate policy seems to have been the Achilles' heel in the inward growth policies in Latin America, in that:

(a) It necessitated the establishment of tariff barriers to counter the negative effect of the exchange rate policies on effective protection, and

(b) It created an anti-export bias by giving excessive advantages to manufacture for domestic consumption as compared with production for export, reducing capacity to explore external markets.

13. The expansion achieved in the capital goods industry in the Latin American continent led to quite significant results in some countries. With the passage of time, however, this sector developed intrinsic weaknesses which, as we hope to demonstrate, became apparent at the moment of the change towards more open economic policies. As summarized in table 1, the State purchasing policies created "captive" markets, which, even under favourable conditions, were only "second best markets". The compulsory nature of the purchases also tended to create a situation of mistrust between purchasers and suppliers. The policies regarding raw material prices, consisting in price differentials between locally produced inputs and inputs that had to be imported, produced differences in specialization which responded not necessarily to market needs but rather to the profitability advantage of products manufactured with local inputs. In addition, the irregularity of supplies in the short term led to difficulties in delivery times. Regarding trade policy, tariffs hindered improvements in productivity as a result of the cost differential that they produced and because they made external competition difficult, even on the part of neighbouring competitors.

14. Financing policies, which initially allowed a lowering of barriers to the entry of local competitors, began as time passed to create the conditions for chronic and excessive indebtedness and weak capitalization on the part of the share holders of the enterprises. Exports tended to create a trade outflow with a strong base in surpluses, except in the case of Brazil. Fiscal incentives employed to promote investment or the formation of particular segments were ineffective as they tended to be offset by other incentives conceded for a broad range of items or activities. As to the development of human resources, it remained "generalist" and, with very few exceptions, followed the changes in emerging operational technologies (CNC machine tools, CAD/CAM, etc.).

Table 1

Characteristics of public policies concerning capital goods

IMPACT / POLICY		ADVANTAGES	DISADVANTAGES
STATE PURCHASES		The policy facilitated transparency in demand (programming and quantification of investment). It supported specialization by suppliers depending on the conduct of ths purchaser.	In the most favourable cases, second best markets. "Relatively captive" markets. Mistrust between purchaser and supplier owing to the compulsory nature of local purchases.
RAW MATERIALS	PRICES	The policy reduced costs as a result of the transfer of profitability.	Differences in supply specialization (e.g. special steels) were a disincentive for production in specialized lines.
	SUPPLIES	The guarantee of supplies (medium term) facilitated programming of production.	Irregularity of supplies (short term) affected delivery times. The monopolistic nature of the (public) producer was unfavourable to average quality.
COMMERCIAL		It counterbalanced the overvaluing effect. Quantitative restrictions were relatively limited in comparison with other sectors.	It made competition difficult, even for neighbouring competitors. It affected productivity, depending on the margin of advantage conceded by effective protection (exchange rate and tariff). Excessive diversification (small markets).
EXCHANGE RATE		Bias in favour of investment (fixed capital). It reduced the cost of investment for capital goods users and products. It expanded the capital goods market in general (both local and imported).	Anti-export bias made commercial protection necessary. Under-equipment, frequently leading to idle capacity, and sometimes to technological obsolescence and vulnerability to fluctuations in investment. Positive trade balances did not grow significantly.

Table 1 (continued)

POLICY / IMPACT		ADVANTAGES	DISADVANTAGES
FINANCING		In certain market segments (large items of equipment made to order), the policy was a guarantee of success. The conditions (rates, repayment periods) provided profitability advantages.	Chronic and excessive indebtedness. Weak capitalization.
TECHNO-LOGICAL	TECHNOLOGY CONTRACTS	They provided an international "margin of manoeuvre" for local enterprises in a difficult geopolitical environment.	They resulted in erecting excessive barriers to foreign investment and other forms of agreement.
	SCIENCE AND TECHNOLOGY INFRASTRUCTURE	Establishment of institutions which, in some (large) countries, offered specific assistance.	Their effects were not tuned to the needs of enterprises.
EXPORTS		Countering the anti-export bias (subsidies, financing and, exceptionally, sales financing).	Exports of surpluses. Susceptibility to the application of anti-dumping and anti-subsidy rules.
FISCAL INCENTIVES		Hardly any.	They tended to be cancelled out by incentives for many other items (location, investment, environment, technology). Of only relative applicability where taxation was high.
HUMAN RESOURCES		Some training for management and specialized trades.	Professional training of a "generalist" nature. Account not taken of changes in emerging operational technologies (CNC machine tools, CAD/CAM).

15. Influences on the competitiveness of capital goods. There is not too much literature on the impact of the earlier generation of public policies on the specific competitiveness of industrial sectors, at least from the viewpoint of modern paradigms of competitiveness. Measures of competitiveness are usually based on the calculation of the revealed comparative advantages constructed on trade balances (Ramses Report, 1990; O.J. Mandeng, 1991). These results are very valuable as they make it possible to obtain a "photograph" of the performance of an industrial sector or of more disaggregated product groups. Nevertheless, this means ignoring another series of considerations relating to the structure and characteristics of competition in markets, trends in the different production factors, etc. In the remainder of this section, the links will be established between the policies analysed above and the various determinants of sectoral competitiveness. Following Porter's approach to the competitiveness of nations, four major determinants in a country's competitiveness can be identified (M.E. Porter, 1990; S. Widmer, 1992):

(a) **Strategy, structure and rivalry** within the country concerned;

(b) **Factor conditions**;

(c) **Demand conditions**;

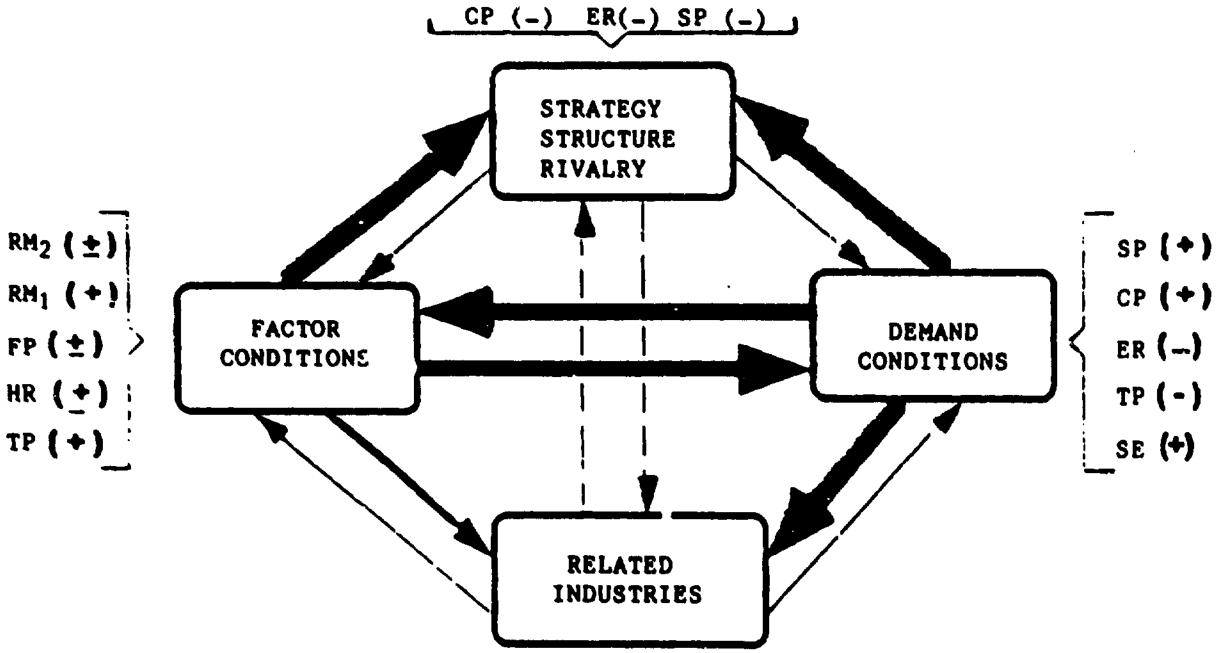
(d) **Related industries**.

On this basis, we shall identify the influences of the different public policies on each determinant of competitiveness (see figure 1). Let us see how this works out.

16. An initial remark to be made is that the two most dynamic factors, which are becoming increasingly important in contemporary competition, had little relevance as a source of competitive dynamism in the earlier policy context. We are referring to the determinants relating to the characteristics of the sector such as "strategy, structure and rivalry" and, on the other hand, relationships between industries - i.e., the conditions for the appearance of aggregates of industries or "clusters", in which strategies of cooperation and competition among enterprises are mixed. This first conclusion emerges when we analyse the flow of interactions between **related industries** and **strategy, structure and rivalry** in figure 1. The latter determinant did not play a very dynamic role in general competitiveness, and decisive in this regard were the policies of greater scope: **trade policies (TP)** and **exchange rate (ER)**. An overvalued or "preferential" exchange rate for the export of a certain type of product (where multiple exchange rates existed) created negative conditions of effective protection both for exports (anti-export bias) and for the domestic market, generally necessitating the establishment of sufficiently protective tariffs or of non-tariff barriers to counter the effect in question. This contributed to the creation of national and regional environments relatively segregated from international competition, which in turn hindered the development of proactive enterprise strategies and sectoral structures of high variety and complementarity.

Figure 1.

IMPACT OF POLICIES ON THE COMPETITIVENESS OF THE CAPITAL GOODS INDUSTRY



POLICIES:

SP: State purchases

RM: raw materials
(1. prices
2. supplies)

CP: commercial policies

ER: exchange rate

FP: financial policies

TP: technological policies

SE: support for exports

FI: fiscal incentives

HR: human resources

17. Although the policy of State purchases permitted access by producers to new markets, it tended to limit internal rivalry. Against the current, policies of support for exports (SE) were adopted, and in some cases these generated substantial trade flows. The point being made here is that policies of a traditional type did not, in all cases, contribute to creating solid structures of competition which would in turn facilitate dynamic layers of specialization. Attempts to change this situation through technological policies (TP) failed because they operated in an environment discouraging internal product and process innovation, leading in turn to a wide gap between the science and technology systems and production. In actual fact, the conventional policies aimed at supply (science and technology infrastructure) had much less influence in orienting technological development than other policies directed towards regulating technology imports. This can be illustrated with the results of the Brazilian policy of reserved markets for the informatics industry in the 1970s and 1980s. Even though, as a result of the measures restricting imports and the purchase guarantees for local producers, there was undoubtedly an expansion and diversification of products and domestic trade flows (P. Tigre, 1983), it is no less true that the technological updating of industry as a whole was delayed at a time when emphasis was being placed throughout the world on the importance of assimilating technologies of this type. When protection policies were changed, the electronics and informatics industry of Brazil was faced with great difficulties in trying to compete (ECLAC, 1991). Related industries such as the machine tools industry were also affected as a result of the difficulty of speedy updating in the direction of computerized numerical control, as the segment of greatest growth.

18. Generally, all the determinants of competitiveness are interrelated, but not in an equal degree. Rivalry on the domestic market would seem to be the most influential determinant, at least according to Porter's interpretation. This determinant stimulates the development of human resources and technologies and the continuous development of increasingly sophisticated products, providing a wide range of products and technical support to related industries. Nevertheless, the combination of policies in the "inward-oriented development" strategy would seem to have been negative for the development of this determinant. Naturally, the negative impact of the policies concerned was not homogeneous in the different countries, being less in countries of larger size (Brazil, Argentina, Mexico) since conditions were created for a relative degree of rivalry or diversity and complementarity in the industrial structure in the capital goods field (Chudnovsky, op. cit.).

19. The other side of the coin is the decisive influence of the policies concerned on the strengthening of more conventional determinants such as demand and factor conditions. If we look at figure 1, we shall see that the two-way flow of interactions between these two determinants is noticeably higher than between any others. This is understandable if we remember that much of the analytical substrate of import substitution was based on the classical theory of international trade, according to which factor conditions have a decisive impact. If the conditions of trade favoured an "unequal" equilibrium between manufactures and raw materials in favour of the former, policies were needed which would reverse the imbalance. This is equally valid for the initial strategies of "export promotion" which sought to utilize the price advantages that could be offered by low-cost labour as the result of an appropriate exchange rate policy. Clearly, for much of this century, the

importance of the "proportions among the factors" seemed decisive and guided the thinking behind development theories. Today, however, there are new conceptual developments supporting a more diverse view of the advantages derived from trade and the factors determining trade flows (see, for example, Dosi, Pavitt and Soete, 1990; Krugman, 1990).

20. A clear example of this influence of factor conditions on strategic choices was constituted by policies on raw material prices (RM1). These had strong effects on the expansion of domestic supply by transferring profitability from the public sector to the private sector, this was strengthened by financing policies that also made it possible to overcome barriers to entry in the development of many investment projects which, under other conditions, might not have seen the light of day. For its part, the long-term supply of raw materials (RM2) provided support for the permanence on the market of a countless number of producers, favouring the development of related industries.

21. As a conclusion to this section, it can be affirmed that the "inward growth" policies were quite effective at the beginning, during what could be called the period of industrial establishment in the countries concerned. Later, they gradually underwent a deterioration and distortion under the excessive impact of the social and political interests that had given rise to them. From the middle of the 1970s, with the big changes in the international context that have characterized the last quarter of this century, the policy framework began to be frankly inadequate, to the point of becoming an obstruction to the competitiveness of enterprises and their subsequent adaptation to the new environment.

III. SECTORAL POLICIES IN THE NEW CONTEXT

22. How can industrial development strategies be rebuilt in the new context? On the basis of what new elements should they be planned? Since the context has changed so much, what are the predominant relationships that will condition policy design? What are the roles of the various actors in the process? How much scope for manoeuvre is there in sectoral policies? This section attempts to provide very approximate answers to these questions that will be of relevance to the capital goods industry.

23. The environment in which the capital goods industry is currently evolving in most Latin American and Caribbean countries is very different from what it was. As indicated in section I, we are now in an entirely different phase, in which many of the conditions in which enterprise activities are conducted are altering. Three general factors of change are crucial to the orientation of industrial promotion policies: (a) the perspectives of enterprise change; (b) the relationship between the State and the private sector, and (c) the horizontal and transverse dimension of policies.

24. The perspectives of enterprise change. It is within the enterprise world that there is an increasingly evident and dramatic need for changes to enable firms to adapt to the new domestic environment and to the foreign context from which they were relatively isolated during the previous phase. Adjusting to the conditions of an open economy is neither easy nor automatic, since firms have been operating according to organizational habits and patterns that were

suited to totally different requirements. Many of the functions and tasks of managers, professional personnel, supervisors and workers were geared to environmental needs that were specific to a closed or semi-closed economy. For example, storage and buying functions have engendered scant concern about the avoidance of waste or the optimization of stock. There has similarly been little interaction between the administrative and accounting areas and the production areas so as to develop a common language that would enable effective cost-accounting procedures to be set up in order to facilitate the continuous monitoring of costs. The same is also true of the strategic positioning of firms, their strategies for product and process innovation, etc. As indicated in the preparatory paper for this Consultation (Widmer, op. cit), capital goods firms need to refine their strategic outlook and know the direction in which their markets are moving, which will probably oblige them to make internal adjustments depending on the strategies chosen. Figure 2 shows an example of possible strategic options available to firms for improving their competitiveness in wider markets.

Figure 2

Strategies of competition

		COMPETITIVE ADVANTAGE	
		Lower cost	Differentiation
COMPETITIVE SCOPE	Broad target	1. Cost leadership	2. Differentiation
	Narrow target	3.a Cost focus	3.b Differentiation focus

Source: Widmer, op cit.

A strategy centred on costs or on product quality may possibly entail decision-making involving changes that will affect cost optimization (negotiations on prices and financing for input purchasing, high rotation of stock, elimination of waste) or different aspects of product quality (reliability and durability in the case of specialized products, and versatility in the case of widely distributed products). However, regardless of the strategy to be pursued, firms will clearly need to revise their innovation strategy (in most cases lacking, at least in any specific form), their marketing strategy and their human resource strategy in order to introduce greater flexibility into the implementation of their global strategies. The sequence of adaptation can, of course, occur in many ways depending on the market segment in which it takes place, the size of the firm, its presence in foreign markets, its local market share, etc. Whatever the case, it should be made clear that the key actions in the new industrial and sectoral strategy will be enterprise adaptation, modernization and re-siting - locally and internationally.

25. Relationship between enterprises and the State: the macroeconomy simplifies operations. As a result of the macroeconomic change of direction, many of the economic variables affecting firms now operate in a climate of greater freedom, even though in many countries full stabilization has not yet been achieved, particularly in the area of inflation. In other words, the markets involved (exchange, financial, goods and services) are now beginning to perform their role as a means of resource allocation with greater regularity. This change has radically transformed the relationship between enterprises and the State, since the profitability of enterprises is becoming less and less dependent on administrative decisions of Governments. The State is functioning less and less as a regulator and guarantor of profitability and is starting to fulfil a different role as a creator of conditions, as an actor in the business environment, as a facilitator in the attainment of better strategic perspectives, and as an international negotiator in guaranteeing the preservation of firms' good positions and in promoting market access and intercountry cooperation. Whereas in the previous configuration the asymmetrical relationship was weighted in favour of the State, it now favours enterprises. In other words, the decisive role in the new industrial strategy is being taken over by enterprises and the State is coming to play an "accompanying" role. The degree of "companionship" can, of course, vary from country to country depending on the previous relationship, on the survival of efficient public corporations, on infrastructure requirements, etc. There is thus considerable scope for manoeuvre in the relationship between the State and the private sector, particularly in the areas referred to below:

(a) **Maximizing the benefits of natural resources.** Although natural resources have declined in value as a primary source of advantages in international trade, their importance can nevertheless be regained if optimization strategies are coordinated on the basis of a more competitive use of the resources, which will entail rationalization of scales of production, the development of suppliers around the resources (specialized machinery and equipment, technological services), and cooperation in the establishment or upgrading of specific educational services as well as R & D facilities. (For a fuller discussion of this point, see C. Pérez, 1992.) The prospects and opportunities for cooperation between the State and the private sector in this area are very considerable.

(b) **Maximizing the local potential.** During the "inward growth" phase, government policies were introduced in an attempt to counteract the overconcentration of industry around the major cities and to encourage dispersal towards depopulated or economically depressed areas. Many of the incentives employed (fiscal, financial, infrastructure, etc.) proved almost totally ineffectual in disrupting the patterns of location around the major cities. With the change of policy whereby profitability in the domestic market and export profitability are being equalized, there is now a more favourable climate for the emergence of new territories with options of diversification or specialization that will depend on the particular field of business concerned. Here, the capital goods sector can serve as a support factor in maximizing local productive potential.

(c) **Focus on innovation.** Whereas, in the past, there was very little manifestation of the need for intensive efforts on the part of firms to upgrade their innovative capacities owing to the virtual lack of competitive stimulus from their environment, in the new context this need is becoming ever more pressing, even though the firms themselves may not initially be aware of its precise extent or be very clear as to how to proceed. Also, very few technological or scientific institutions (in which the State has had a predominant role) have directed their efforts at meeting the immediate requirements of the private sector.

(d) **Human resources at the centre of events.** Competitiveness today is largely a matter of people, their abilities, their initiative and their motivation. Total-quality management strategies, for example, will not be possible unless they are based on greater individual responsibility at all levels of the firm. Although firms have a clear responsibility to accept this new situation and act accordingly, both the State (at the municipal and central level, and through training organizations) and the labour force itself have a vital role to play in identifying the new needs, in negotiating the development of new strategies, in strengthening appropriate institutions, etc.

26. Horizontal and transverse policies. Clearly, therefore, the State cannot give up performing a role in relation to industry. What is happening is that the direction of government action is undergoing a major change. The most important point is not that State involvement is diminishing but rather that the nature of the influence is changing in qualitative terms (see M. Crozier, 1991). In the industrial sphere, there is a trend towards two kinds of policies: horizontal and transverse. (On this point, see Ministry of Development (Venezuela), 1992, and H. García Larralde, 1992.) Horizontal or longitudinal policies affect all firms equally, are non-discriminatory and foster global improvements in the competitive environment and in the advantages that the enterprise sector can derive from that environment. Typical of this new methodology are financial policies based on second-tier bank schemes that do not seek to benefit specific sectors but rather to create new financing tools, such as access to credit for intangibles or for enterprise change in general. By contrast, transverse policies cannot avoid sectoral specificities and must consequently act in a way that encourages results in line with such special features. This is the case with the training of specialist workers or with the new relationships between State corporations that supply inputs (steel, aluminium, copper, petrochemicals) and their customers. Although in an environment of open competition such corporations should not in principle distinguish between their domestic and foreign markets, there must clearly be guaranteed supplies of products for local processing.

IV. ENTERPRISE STRATEGIES FOR DEVELOPING THE CAPITAL GOODS INDUSTRY IN LATIN AMERICA

27. Exploring strategic perspectives. Having set out a conceptual framework to situate the policies in the new environment and having given a brief outline of competitiveness at the sectoral level, we can now undertake a more detailed discussion centred on an analysis of strategies and policies. It should be made clear that the ideas propounded are strictly hypothetical, since they are not universally applicable to all countries. Figure 3 shows various stages in a projected restructuring of the capital goods industry, the starting-point for which is economic adjustment. This strategic outlook is based upon enterprise adaptation to the new environment in the long term. Consequently, two simultaneous perspectives are included. The first, in broad

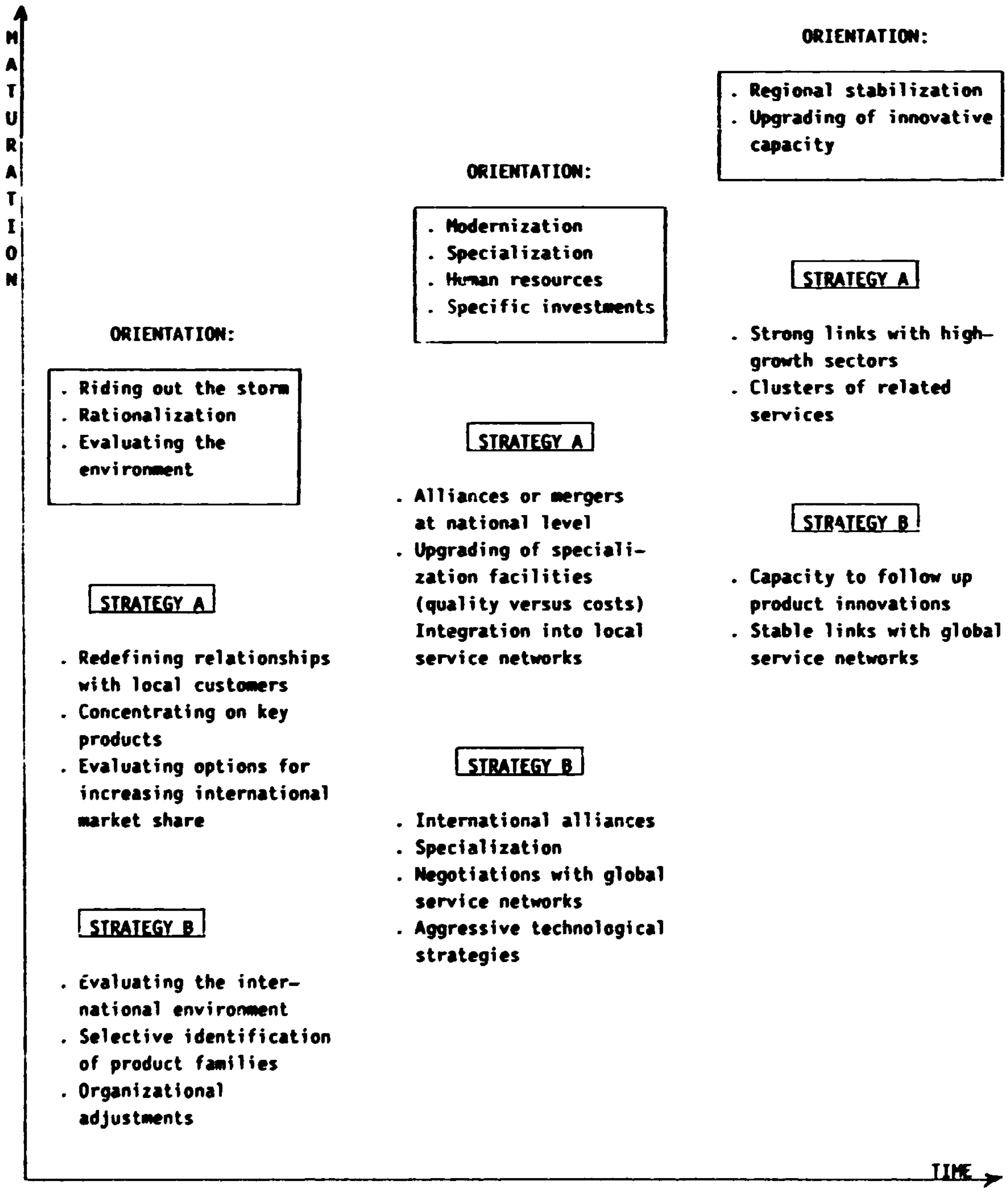
terms, distinguishes each phase (orientation) as the maturation of responses over time. The second comprises two strategic options that become increasingly divergent over time, since the firms involved are targeting essentially different markets. Type A strategies correspond to capital goods firms that have become strong as suppliers (mainly to order) of high-growth domestic sectors (electricity, petroleum, mining, agro-industries, etc.) in the countries and could become integrated into local or subregional service networks which will assume increasing importance if those sectors have to compete globally or undergo sustained growth in order to guarantee local supplies. It can thus be seen that a "support others" strategy is being propounded, to which we will revert subsequently. Type B strategies correspond to firms manufacturing more widely distributed products that could gain entry into international market niches, which would lead to greater independence from the local networks and to integration into global networks.

28. Following the progression over time, there will initially be a phase of **post-adjustment transition** during which it will be a question of riding out the storm, since the maladjustments of an entire decade have severely affected investment in many productive sectors and countries and, with it, the short-term growth potentialities of the capital goods industry. This is a phase in which rationalization and internal preparations for better times will probably predominate. In such circumstances, capital goods firms will not be very inclined to embark upon modernization processes by investing in fixed assets. An example worth mentioning concerns the efforts of the machine tools sector in Brazil, which, as a result of the sharp decline in sales, developed a strategy for the partial modernization of the nation's installed machinery stock, in particular through retrofitting, or installing automatic systems on used machines. In this case, an aggressive after-sales service policy enables preparations to be made for when investment picks up. If the strategic options are examined individually, it can be seen that efforts to evaluate the environment (which markets are growing, which are stagnating, which are waning) will be directed either at the domestic or subregional market or at the foreign market depending on the type of strategy pursued. The same applies with regard to product selectivity for a specialization approach and to relationships with local customers. It would seem that the most globally-oriented firms need to make the greatest efforts at internal reorganization in order to put themselves on a par with their international counterparts. This phase could also be described as one of exploration.

29. A second phase is based upon **change and repositioning** once the perspectives of growth have been identified. Efforts directed at enterprise modernization with a view to initiating steps towards the new goals will predominate. Modernization is likely to be based more on the development of **intangibles** than on the purchase of new equipment. This will probably require increased efforts at developing human resources as a key factor in making improvements within the firm. Also, depending on the strategic option concerned, **alliances** or mergers will be formed at the local/subregional level or sought in the international sphere. The two options will tend to diverge still further since, in one case, there will be increased integration into local service networks whereas, in the other, attempts will be made at negotiating an entry into global networks. The key in both cases will be specialization, except that wider-ranging technological efforts will be required in type B strategies.

Figure 3

Enterprise strategies: options by type of firm



Phase I: Post-adjustment transition 3-5 years

Phase II: Change and repositioning 5-7 years

Phase III: Role maturation 5-7 years

TYPE A STRATEGIES: Correspond to capital goods firms incorporated into service networks in the countries (or subregions).

TYPE B STRATEGIES: Correspond to capital goods firms fully integrated into global markets.

30. In the third phase the key competitiveness factors in the countries will have become clearer and the strategic options more sharply delineated. In the case of type A strategies, strong links will have been established with the highest-growth sectors in the economies and the picture of regional complementarity will have become more distinct as a result of the strengthening of "regional submarkets". The "external" support mechanisms designed to enhance responsiveness (innovation, human resources, technological services) should also have been strengthened. However, the most important aspect of this strategic vision is the role to be performed by the sector. In contrast to the "inward growth" phase, when it was believed that the capital goods industry would fulfil a "technological motor" role similar to that of other industries, as had occurred in the advanced industrialized countries (Rosenberg, 1973), in this new phase the Latin American capital goods industry will need to be primarily a means of technological assimilation and a support to the highest-growth sectors in those countries or submarkets that have succeeded in stabilizing their economies. This will mean abandoning a leading role and accepting a more modest one. Type B strategies will have resulted in product families in some countries that have acquired a particular dynamism built around a strong capacity to follow up product innovations and stable links with global service networks.

CONCLUSIONS AND RECOMMENDATIONS

V. A NEW POLICY AGENDA FOR THE 1990s

31. Having examined various strategic options for the region's capital goods firms, we should now explore in detail the different policies available to the countries for improving enterprise competitiveness. We have already seen how horizontal and transverse policies implemented by the State can be combined with differently oriented policies pursued principally by the private sector. Table 2 gives a summarized breakdown of the policy perspective, on the basis of the following criteria:

(a) The effects of the policies on the four determinants of competitiveness discussed in section II (paragraphs 14-18);

(b) A brief description of the mechanisms to be employed with a view to putting the policies into effect;

(c) An indication as to whether they are horizontal or transverse policies or a mix of both;

(d) An indication as to whether they are policies for the public sector, for enterprises or for industrial associations or a combination of these.

Table 2

Policies for improving the competitiveness of the capital goods industry

Policies	Description	Type: Horizontal	Type: Transverse	Actors: Public sector	Actors: Enterprises	Actors: Industrial associations
I. FACTOR CONDITIONS						
HUMAN RESOURCES						
1. Skilled labour	- Upgrading of skills in traditional trades	x		x		
	- Role of new technologies (NCMT, CAD/CAM)		x	x		x
	- Strategic skills (moulds, dies)		x		x	
2. Management development and in-service training	- Strengthening of management centres	x		x	x	
	- Introduction of management in-service training programmes	x	x	x	x	x
FINANCING						
3. Access to credit	- Clear rules on credit facilities (time-spans, rates, dead time)	x		x		
	- Compliance monitoring	x		x		
4. Promotion of new mechanisms	- Intangibles financing	x		x	x	
	- Venture capital	x			x	
	- Factoring		x		x	
	- Leasing		x		x	
	- Reciprocal guarantees	x		x		
	- Sales financing		x	x	x	

Table 2 (continued)

Policies for improving the competitiveness of the capital goods industry

Policies	Description	Type		Actors		
		Horizontal	Transverse	Public sector	Enterprises	Industrial associations
RAW MATERIALS						
5. Improving competitiveness of public enterprises	- Enterprise restructuring	x		x		
	- Privatization		x	x		
	- Identifying and negotiating supplies		x	x	x	x
II. DEMAND CONDITIONS						
STATE PURCHASES						
6. Development of suppliers	- Strategic policies of major purchasers	x	x	x	x	x
	- Programming and updating of investment and tendering information (regional level)		x	x		x
	- Establishing of cooperation programmes (product design, methodologies for demand disaggregation)		x	x	x	x
EXPORT BOOSTING						
7. Market intelligence	- Implementing mechanisms for gathering, analysing and updating information on external markets and their behaviour	x	x	x	x	x
8. Commercial agreements	- Multilateral (integration)	x	x	x		x
	- Bilateral		x	x		x

Table 2 (continued)

Policies for improving the competitiveness of the capital goods industry

Policies	Description	Type		Actors		
		Horizontal	Transverse	Public sector	Enterprises	Industrial associations
III. STRATEGY, STRUCTURE AND RIVALRY						
INVESTMENT PROMOTION						
9. Strategic alliances	- Seeking agreements with foreign firms		x		x	
10. Action at State and municipal level	- Tax relief - Information on projects and resources	x	x	x		x
11. Updating of legislation		x		x		x
INDUSTRIAL PROPERTY						
12. Updating of legislation	- Regional harmonization of codes	x		x		
13. Modernization of systems		x		x		x
METROLOGY						
14. Ditto	Ditto	x		x		x
STANDARDIZATION						
15. Ditto	Ditto	x	x	x	x	x
PROMOTION OF COMPETITION						
16. Legislation	- Unfair competition, anti-dumping and consumer protection laws	x		x		
17. Institutional mechanisms	- Organizations to promote competition	x				
	- Anti-dumping and anti-subsidy organizations	x	x	x		
	- Consumer education and protection organizations	x	x	x		

As will be seen from the table, few policies fall into the exclusive domain of the public sector. Special mention should be made of policies aimed at the establishment of rules, regulations and laws relating to the environment in which firms operate. Also, the various tools that are described involve the joint efforts of two or three of the actors concerned. A combination of horizontal and transverse policies can similarly be observed, which suggests the existence of ample scope for manoeuvre in mixing policies. The predominance of one policy over another or the greater importance of any one of the actors will depend on the degree of institutional maturity and professional expertise attained by the country during the previous period. The remainder of this section will highlight some of the areas of government, private-sector and joint action that will make it possible to strengthen enterprise responsiveness to the demands of each developmental phase within the capital goods industry.

32. The challenge of human resources. If Latin America can draw any lesson from development strategies in other continents, it concerns the effective development of human resources. A change of direction here would require determined efforts to improve people's professional standards at all levels, particularly now that current management practice means that human beings have ceased to be mere factors of production and have become a potential source of continuous improvement - provided, of course, that it is realized that the people concerned (workers, middle managers) must take on a correspondingly greater share of responsibility in the design, execution and monitoring of their own goals. In this connection, it should be made clear that to implement successful total-quality policies will be difficult without the commitment of the majority of the enterprise workforce. Developing the human resource potential of the capital goods industry is a typical example of the need for joint efforts on the part of the actors involved. In most countries there are government mechanisms for skills training, with inputs from enterprises, trade unions and the State itself. However, with the ever-mounting deficits in the public sector, the capacity of many such institutions to keep in touch with the requirements of modern skills training has progressively diminished. There is now an urgent need to rescue these institutions, for which a new approach is essential. Such an approach could be summarized as follows:

(a) Sectorization: To allow the identification of specific skill requirements in line with current technological changes (CNC, CAD, dimensional metrology, moulds and dies, tools);

(b) Decentralization: So that "lighter" organizations can remain constantly alert to the needs of entrepreneurs and workers (Crozier, 1990);

(c) Involvement: The fostering of a new participatory culture should cease to follow a discursive approach and become an accepted principle in the productive practice of the plant;

(d) Cooperation: The Government, entrepreneurs and trade unions all need to participate and, if possible, channel international cooperation (see table 2).

33. When a consensus is achieved among specialist institutions (institutes of management, technological institutes, international consultants, technology suppliers), a wide range of specific management training needs can also be pursued (see annex 1 concerning the Regional Programme for Industrial

Automation). However, it is necessary to change the curricula of the vocational courses most involved, such as engineering, economics and labour relations, and also to introduce advanced training and master's degree courses in these areas.

34. Promoting innovation and enterprise change. In section II we examined how specific technological development policies "bounced off" the hard shell of an uncompetitive environment that was highly oriented towards the purchasing of imported machinery at comparatively low cost. It has been possible to identify how, in the new context, innovation will be an increasingly important factor in the success of the enterprise strategies put forward. It should, however, be pointed out that this does not just mean innovations in the "physical" productive process involving modifications to machinery or changes in product format. It is equally important to be able to change organizations, to make them more responsive to the market, and to adjust their functions so that they become institutions facilitating continuous learning (see paragraph 24). Here too, the roles of the actors are varied. Governments need to undertake institutional reinforcement in the area of technological support services (industrial property, standardization, metrology), fully in touch with the new requirements. Such assistance is most needed in the case of exporting firms, which have to comply with very specific certification requirements in their foreign markets. There is also a need to upgrade technological centres offering a wide range of services (product design, evaluating equipment and system modernization options, characterization of materials, development of prototypes). In the case of the capital goods industry, the combined efforts of enterprises and technological centres is called for in order to enhance firms' innovative capacities in various areas: (a) industrial design; (b) development of tools that will help firms set up specific projects, such as the introduction of new products or process changes (layout, modernization, new investment in processes such as heat treatment, specialized welding, etc.).

35. Industrial associations need to stimulate enterprise-to-enterprise links and cooperation. For this to be possible, these associations must upgrade their capacity for handling national and international information, act as a bridge to potential investors in other continents, hold seminars on processes, follow up future service requirements, promote regional enterprise-to-enterprise cooperation, and negotiate cooperation arrangements with major buyers (in the case of type A strategies) for the development of new products. (In Venezuela, for example, cooperation between the petroleum industry and the manufacturing industry has made it possible to develop sensing and early response systems for oil wells.)

36. Finally, enterprises must be at the forefront of the changes in the areas of innovation referred to. To ensure that the changes take place efficiently, enterprises need to establish effective systems for the planning, introduction and internal monitoring of the changes in the form of project methodologies whereby the various phases of the process of change, the use of resources and the timing can be evaluated - otherwise, the technical and managerial staff involved in the process of change could well become disheartened.

37. New financial approaches and tools. Of all policies, financing is the most difficult to implement. Here the problem lies chiefly in developing horizontal policies aimed at restructuring public and private financing systems. In the case of private institutions, major efforts to achieve internal savings are to be encouraged in order to finance the investment

required to implement the change. In the public sphere, rationalization should make it possible to secure medium- and long-term borrowing in the market to supplement the funds that can be raised through public channels (ECLAC, 1990). However, there are a number of problems to be addressed. In the first place, the financing of investments in fixed assets may not necessarily be the crux of the requirements in the new context. The increasing importance attaching to the financing of other areas has been highlighted recently (C. Pérez, op. cit.). Consequently, the financial system needs to provide for expeditious mechanisms for accessing funds within the banking sector so that enterprises can finance their processes of change. However, it is not clear when the private sector will require funds for intangibles once the opening-up process has been initiated.

38. With regard to the financing of innovations, the process is more complex since these activities entail high levels of risk. In some Latin American countries (e.g., Chile), mechanisms have been introduced for technological development funding that are based on reciprocity between centres providing services and firms. The former are granted subsidies provided that the projects are aimed at meeting the needs of particular firms. The latter are financed provided that they use the services of local specialist centres.

39. A second problem concerns the financing of enterprises that have very little opportunity of access to ordinary funding channels. This is the case with small and medium-sized industrial enterprises, which do not possess the advantages to enable them to borrow in proportion to their importance within the economy (job creation or output). Here again, horizontal policies that will improve accessibility are called for. One mechanism that has become widespread is the **reciprocal guarantee fund**, which enables subscribing firms to obtain much larger loans backed by the fund. However, there is still a substantial segment of enterprise activities - especially those that are the most technologically innovative - that tends to remain outside the formal financial system and that could potentially play an important role in developing opportunities. The best mechanism for ensuring that this sizeable segment has access to financing is constituted by **risk capital funds**, for which certain requisites in the financial system and in the securities market have to be satisfied to facilitate the mobilization of funds, involvement in project management and ease of withdrawal by the investors once the enterprises have been launched and initial output is under way. Both these financing mechanisms require institutional changes and a maturation time of not less than five to seven years for them to become fully operational.

40. A third problem, which relates more to the short term, basically concerns the need for improvements in the provision of services. Depending on the timing and the strategy adopted, **leasing and factoring** can be important as means of improving the conditions for the integration of regional suppliers of equipment, particularly those selling equipment manufactured to order. Also, with a view to facilitating entry into international markets, accessing mechanisms need to be introduced in the form of **securement** or instruments that facilitate trade (bank guarantees, documents against payment, letters of credit). (See issue paper I for this Consultation.)

41. A good mix of policies. The choice and adoption of policies to support the strategic options analysed in the previous section should be based on an identification of the optimum combination of actions that will satisfy the enterprise requirements during each phase. Put differently, not all policies have the same importance at any one time, nor do the people responsible for

putting them into effect always have to be the same. A crucial factor in policy implementation is thus the strategy phase through which the countries' industries are passing. That will determine the greater importance of some policies in relation to others. Table 3 shows a proposed reclassification of policies by implementation phase.

Table 3

Sequence of policy implementation

PHASE I

+ Human resources	Skill upgrading in trades and management	+ Financial	Sales financing Leasing Reciprocal guarantees
+ Raw materials	Supply parameters	+ State purchases	Enterprise policies
+ Exports	Market intelligence	+ Investment + Promotion of competition + Industrial property	Legislation

PHASE II

+ Human resources	New technologies Management upgrading	+ Financial	Intangibles Factoring Rules
+ Raw materials	Enterprise restructuring/ privatization	+ Purchases	Investment and tendering information
+ Investment	Alliances State and municipal level	+ Exports	Commercial agreements
+ Promotion of competition - metrology + Industrial property - standardization			Modernization of systems

PHASE III

+ Human resources	Strategic skills Strengthening of management centres	+ Financing	Risk capital
+ Raw materials and State purchases	Cooperation programmes	+ Exports	Agreements with domestic and foreign banks
+ Promotion of competition	Institutional mechanisms		
+ Coordination of technological services	(Industrial property, metrology, standardization)	+ Investment	Information on projects and resources at local level

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