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# Modification of the industrialization model in Latin America

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Apart from its intrinsic value, this article has the added merit of providing a straightforward presentation of a prominent German scholar's views on Latin American industrialization. It is divided into four chapters. The first two outline the main interpretations of this process from the 1930s up to the present, while the last two address the central issue of the modification of the predominant industrialization model. The author takes a critical view, not only in terms of a long-term historical perspective, but also of the policies implemented during recent years in response to the crisis, which are generally marked by "stabilization without creativity" and the hope of resuming economic growth with the help of direct foreign investment.

In line with ideas developed by ECLAC, the author proposes an industrial strategy based on the achievement of "inward-directed growth" through the creation of capital and mass consumer goods industries, the continuance of selective import substitution, the establishment of clear-cut guidelines for the division of labour within the region and the application of a selective and dynamic policy aimed at gaining market positions in the central countries.

The economic, social and political conditions which must be met if such a strategy is to be carried out successfully include, *inter alia,* the elimination of structural heterogeneity; political, administrative and financial decentralization; a considerable advance in technological development; the creation of an autonomous industrial and technological core; strengthening the national entrepreneurial sector; and an increase in State autonomy and efficiency. Towards the end of the article, the importance of political aspects are underscored; the systematic effort required to apply this strategy, the imbalances to which it gives rise and the obstacles in its path make it necessary for the strategy to be based upon the participation, motivation and creativity of society as a whole.

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## I

## Insufficient inherent momentum within the industrialization process

The decline in exports of raw materials consequent upon the world economic crisis was followed by a need to substitute domestic production for imports. Originally, when import substitution was still a spontaneous process, it represented a defensive strategy. Even in its dirigistic phase —from the end of the Second World War— it never developed into a comprehensive and aggressive industrialization strategy. "Industrialization" in Latin America meant the introduction of technical progress not into all sectors of the economy but only into the modern branches of industry and the export-oriented sectors: mining, agriculture, and trade.

Unlike East Asia (Japan, South Korea), Latin America retained its pre-industrial economic and power structures. Consequently, the region had to rely on the "modern sector of the economy" in seeking high rates of growth. The models of development were dual or unbalanced based on the premise that the momentum of the modern sector would gradually dislodge the traditional structures. However, in many countries opportunities for import substitution were exhausted as early as the 1960s, and insufficient action was taken to mitigate internal imbalances and thereby increase domestic demand. Sectoral, regional, and social imbalances —the heterogeneity within and among the various sectors— were soon found to form a critical barrier to the inherent momentum of the industrialization process.

The shape of industrialization was determined from the outset by the attitudes of upper and middle-class consumers. The increasingly marked concentration of incomes which reflected the economic, social and political imbalances resulted in the premature imitation of consumption patterns typical of the industrialized countries, in particular the United States. It steered industrial development towards consumer durables, including cars, and sectors in which development depended on investment by transnational companies; for many years only scant importance was attached to labour-

intensive exportable consumer goods and indeed to capital goods. This type of industrialization did not absorb an adequate fraction of the quickly-expanding labour force and resulted in a rapid increase in foreign participation, which later was frequently excluded from deliberations on industrialization strategy.

Industries under foreign control (the motor vehicle, chemicals and pharmaceutical industries, for example) experienced a period of vigorous growth as long as the —mostly small— domestic markets remained unsaturated. In many instances, assembly and packing plants were commissioned, but the subsequent transfers of resources {profits, payments for technologies) represented a constant drain on the balance of payments. The national private sector has largely continued to produce simple consumer goods, demand for which has expanded only sluggishly, especially since the mid-1960s, because of the stagnation in agriculture, the strong concentration of income, and the absence of government corrective policies.

Growth in the agricultural and industrial sectors was largely ascribable to a few large companies, while small and medium-sized national firms were neglected, their development even being hampered by the economic policy pursued. However, an industrialization process confined to large companies implied that there was no alternative to importing foreign technologies. This productivity was further aggravated by the fact that the technological and industrial options selected by the industrialized countries (large-scale technologies, armaments industry) were emulated in an increasing number of sectors.

Medium-sized and even small countries likewise spent many years trying to press ahead as far as possible with an import-substituting type of industrialization. Despite its inadequate geographical size, Chile, for example, opted for an industrialization path looking to heavy industry and forward integration. Even countries such as Uruguay sought to establish a motor vehicle industry, thereby overlooking the advantages of industrial specialization. Such industries tied up considerable financial resources but did little to accelerate the industrialization process because expansion in the industries manufacturing intermediate products remained inadequate and intra-indus trial demand limited; moreover, they soon became obsolete owing to the limitations of national technological capacity. Only the larger countries were capable of substituting domestic production for some of the more complex import items, thus developing an industrial apparatus with increasingly clear vertical and horizontal linkages.

In Brazil, the economic and political influence of the groups predominating within the pre-industrial sector was nullified, and industry came under pressure to step up its competitiveness. Since the mid-1960s, moreover, Brazil's domestic market had proved to be sufficiently large to afford industrialization a further boost: by means of government investment in the basic and capital goods industries and also investment by foreign groups in the development of fully integrated motor vehicle complexes and industries producing consumer durables and showing considerable intra-industrial demand. Since the mid-1970s, Brazil has also become an internationally significant exporter of manufactures. It owes its exceptional position in Latin America, however, to its size and potential, and also to massive commitments by multinational groups; social, sectoral and regional imbalances here are certainly no less pronounced than in the other countries.

Although imports continued to expand (both despite and on account of the import-substituting industrialization strategy), and the evolution of the terms of trade was perceived to be critical in Latin America, virtually all countries in the region have relied on exporting their large-scale and well-diversified natural resources to back up their industrialization process. Export business is transacted by foreign and, to an increasing extent, domestic mining and petroleum companies, and also via certain segments of agriculture, which has undergone thorough modernization only in the large countries. Because of the significance of agriculture in export business, and by extension, the power held by landowners, the efforts made to remove the structural obstacles to industrialization in the agricultural sector have remained scant, and more and more compromises have had to be made in economic policy. In some small and medium-sized countries in particular, it was not long before signs of stagnation emerged because the excessive^ emphasis placed on import substitution precluded any in-

dustrialization based on natural resources, and more specifically on agriculture, a strategy which would have entailed an export-oriented approach.

Some of the proceeds from exports accrued to a stratum of society whose position had never been challenged in the past but which combined imported consumption patterns with limited production know-how. Substantial sums were also invested in the public sector of the economy, where the bureaucracy was quick to adopt the values and demand pattern of the weak private-sector bourgeoisie. Even as early as the mid-1950s, dependence on a few exports had resulted in a shortage of foreign exchange reserves, though this conduced to a general feeling of export pessimism rather than to any change in favour of exporting manufactures. Latin America was slow in emulating the shift of emphasis in world trade toward manufactures during the period of rapid expansion on the world market which lasted from 1955 until 1980.

Whereas in Japan, South Korea, and Taiwan massive redistribution measures, including agrarian reforms, were instrumental in securing high rates of saving, in Latin America a degree of concentration of wealth and income by far higher than in virtually any other region of the world led to consumerism in relatively narrow population strata, to squandering of resources and —in periods of crisis or more attractive interest levels abroad— to a massive flight of capital. Whereas in the industrialized countries the financial infrastructure was established parallel to and on the basis of the industrialization process, in Latin America no mobilization of domestic capital based on the expansion of the financial infrastructure occurred because of the excessively easy access to cheap foreign capital. The capital inflow from abroad even partially took the place of savings formation at home.

The exogenous causes of the shortage of resources, and indirectly also of capital formation within the region, should not be underestimated; undoubtedly, however, these would not necessarily have represented an insurmountable obstacle to a dynamic industrialization process if suitable conditions had been created and enterprise-oriented strategies pursued. It is significant that the "light exports" of agricultural products and petroleum of Argentina and Venezuela were precisely those which made it possible to retain an extensive growth model over a period of decades, whereas the competitiveness of the economy, and of industrial exports in particular, remained extremely low in relation to the level of industrialization. Capital is indeed an important factor in development, but it is by no means sufficient in itself. Precisely because the export of raw materials and an influx of capital from abroad paved the way for a succession of "soft options", the deployment of capital remained relatively inefficient. Institutional and microeconomic factors, and in particular the low level of performance of government and industrial firms, together with the lack of cooperation between these, did much more to hamper the industrialization process than any shortage of capital.

# II

# The 1970s: The road to crisis

The problematic elements of the Latin American industrialization model outlined above were compounded in the 1970s by factors which at the outset could be ascribed largely to the region's power structures and economic strategies but subsequently to changes in the world economy:

—The oil price rises triggered off substitution programmes, most of which entailed large-scale projects having a long gestation period and requiring extensive imports and foreign financing. It was soon found that dams ( such as that of Itaipú) were too large and ecologically questionable; that nuclear programmes were financially demanding and technologically unpredictable; and that a scheme like Brazil's alcohol programme were not only costly but also antisocial

because of its displacement of small farmers. In some cases, significant substitution effects could be achieved, but the programmes concerned always exacerbated the existing economic and social imbalances, prevented the implementation of alternative schemes —some of which might have made for a drastic reduction in energy consumption— and increased foreign debts.

—The upswing in imports and external financing was also ascribable to the greater emphasis attached to expanding the basic and capital goods industries in the large and some of the medium-sized countries. The oil-exporting countries (Mexico, Venezuela) set out to develop their petrochemicals and steel industries, but the projects concerned made only slow progress because the financial and, in some instances, technological strain exceeded the resources of the companies concerned, most of which were State-owned. Had these projects been executed as originally planned, they would also have necessitated extensive exports, though the world market situation had not been adequately considered at the design stage. Admittedly, a number of countries succeeded in greatly expanding their capital goods industries: between 1978 and 1981 self-sufficiency in capital goods rose to 80% in Brazil, 70% in Mexico and Argentina and 40 to 45% in Colombia and Peru, but only to 10% in Chile. Large sums were also invested in the expansion of mining companies, many of which had been nationalized in the 1960s and 1970s with a view to increasing exports.

—After the seizure of power by the armed forces, Brazil and Argentina in particular began to develop large-scale military-industrial complexes for security reasons and also in pursuit of their objective of becoming major powers (armaments and nuclear programmes, aircraft construction, including aluminium industries). While Brazil made every effort to become internationally competitive and rapidly increased its exports of military equipment, Argentina's military-industrial complex remained inefficient. Nonetheless, the country succeeded in evading the monetarist experiment, in obtaining major subsidies for its basic industry, which was similarly controlled by the military, in ensuring that the domestic private sector was given preference over foreign direct investment, and even in keeping alive obsolete industrial companies. Not only did its efforts contribute little to increasing exports; they also tied up an enormous amount of capital and entailed extensive importing of armaments. "Military strength" resulted in a general neglect of other objectives, in particular the upgrading of efficiency by means of industrial specialization.

—In the countries of the Southern Cone (Argentina, Chile, Uruguay), where opportunities for import substitution were almost exhausted as early as in the mid-1950s because of the length of time which this strategy had already been pursued (a tendency which had political implications inasmuch as the population was relatively well organized), the military governments opted for monetarist economic policies. Placing their trust in market forces, they proceeded to generally liberalize imports and capital markets; however, no adequate support was forthcoming for the adjustments to the needs of the world market which companies made by specializing within the agricultural and industrial sectors, and during the second phase in particular (1978 and 1981), the pressure to adjust became unrealistic in the wake of the "monetary approach to the balance of payments" advocated by the modern monetarist school. These economic policies resulted in the loss oía social consensus on basic aspects of development, further exacerbation of existing economic and social imbalances, drastic contraction of domestic markets, de-industrialization tendencies, and a tremendous increase in speculative capital movements, flight of capital and external indebtedness.

Latin America's foreign debts have mainly endogenous causes which were bound to result in a crisis in the wake of the changes taking place in the world economy. At a time of international adjustment, the countries of the region persisted in pinning their hopes on a high rate of growth. The cumulative effects of overeoncentration on the modern sector, an inadequate technological basis for the industrialization process and poor export performance were adversely compounded in the 1970s by various factors: this applies as much to the above-mentioned gigantomania in connection with substitution projects in basic industries and the energy sector —which were not infrequently supported by inter-

national financing institutions— as to the subordination of the industrialization process to notions of security policy and military interests. It also holds good when one considers the attempts made, in particular in Mexico, to pursue a twofold policy of implementing major heavy industry projects and at the same time expanding the likewise import-intensive consumer durables industry, including integrated motor vehicle complexes. In Brazil too, where a large measure of import substitution was achieved in this manner, the procedure in question resulted in a high level of external indebtedness. It is virtually impossible to trace the underlying economic considerations that explain how, despite the austerity programme introduced in the OECD countries, the traditional obstacles to demand for consumer goods could be removed, thus enabling large quantities of goods to be imported. The irresponsible allocation of loans by the international banking system is undoubtedly as unsatisfactory an explanation for Latin America's adopting such a course of action as any reference to increased exports. The combined impact of all these factors meant that the economies of the region were much more severely affected than those of the industrial countries or the countries of Asia; it resulted in "derailment".

# III
# Stabilization with creative transformation

Even assuming that its liquidity problems will be alleviated and its debts partially cleared —courses of action which are hardly avoidable, though there are no signs of their being accomplished in the foreseeable future— the region faces a fairly protracted period of limitation of its external financing facilities. It will not be able to recover from its decline before the early 1990s. Technocratic attempts at stabilization are at present having the effect of making domestic markets contract, while in the light of foreign trade problems it is becoming increasingly necessary for economic policies to focus on expanding exports. The action possibilities open to governments for halting the "downward spiral", preventing the further obsolescence of the production apparatus, and combating mass poverty are proving to be inadequate while this "stabilization without creativity" persists. As has been apparent in some countries of the region for many years, concentration on short-term policies creates an inexorable and growing need for stabilization.

Many governments are still hoping that the traditional "growth-cum-debt" pattern can be resumed and repeated. They base their action on the familiar concepts of concentrating excessively on economic growth, improving the climate for foreign direct investment, and overcoming assumed shortages of capital by raising yet more funds abroad. But since stabilization is not accompanied by standard-setting economic and social reforms, these concepts are encountering growing political resistance. The coincidence of various factors {internal and external imbalances, foreign indebtedness, saturation of the industrialized countries' markets and the protectionism to which these countries are resorting in order to facilitate the technological modernization of their industries, the third technological revolution, etc.), has brought Latin America to a turning-point. The long period of low growth should therefore be used to bring about a creative transformation.

If the region is to overcome the recession, regain its industrial momentum, and adjust to the changes in world economic conditions, a more complex strategy will be required. The objective here cannot be to "catch up" with the industrialized countries; instead, the region must try to avoid their mistakes —which are having increasingly serious repercussions, particularly with respect to the environment— and to link elements of "catching up" and "closing the gap" with original solutions which, wherever possible, anticipate new developments in certain sectors and may even enable the region to "overtake" the

industrialized countries in some areas. What is needed is a skillful and flexible combination of elements such as the following, the relative importance of which may well vary through time:

—development of domestic markets to permit "inward-directed growth" via the mass-produced consumer and capital goods industries. This will require above all prompt action to minimize growth-inhibiting imbalances and reinforce the technological foundations on which industrialization is based;

—continuance of import substitution, though now with a view to reducing imports selectively and preventing a further rise in domestic costs, widespread inefficiency, inadequate profitability, and limitation of opportunities for private-sector investment, phenomena which import substitution has provoked in the past;

—establishment of clear-cut objectives for the division of industrial labour within the region, especially in high-technology research and the motor vehicle and capital goods industries;

—an aggressive but selective policy of forging links with the industrialized countries, not with a view to highly subsidized export trade in manufactures, wherever this might be possible, but concentrating instead on industrial linkages which would enable the region to acquire strategically important market positions and shares.

A strategy which seeks to combine elements of both inward-looking and outward-directed industrialization such as this presupposes reforms in the following five fields in particular:

1. Industrialization is a macrosocial problem and calls for increasing homogeneity of structures. The manoeuverability of societies in Latin America would be markedly enhanced if non-industrial production methods in the "traditional" sector were phased out and social, sectoral, regional and ecological imbalances were reduced. Agricultural reforms in particular are long overdue in many countries of the region and are an imperative necessity if economic and social growth is to become more balanced, the rapidly growing urban population is to be fed, industrialization speeded up, and politically stable development achieved. What is required is a skillful combination of elementsof structural and technological reform, a feature which agricultural reforms have customarily lacked in the past. This would entail:

— selective measures to change tenancy and ownership structures and introduce ecologically acceptable forms of reallocating and consolidating farmland, where possible without disrupting modern export-oriented holdings;
— a radical change in the agro-technological base in the traditional sectors of agriculture and the grouping of small farmers in co-operatives with a view to largely excluding the middleman from trade in mass-produced consumer goods (this being essential if prices are to be raised *and* the urban population is to be catered for at reasonable cost);
— selective strengthening of the input and output sectors of agriculture (metal-working, chemicals; biogas and other decentralized energies; agricultural banks); in some instances, in particular where artificial fertilizers and insecticides are concerned, agreements with industrially advanced neighbouring countries would be an advantage.

It is important to ensure that the adverse financial and ecological effects of the agricultural policies pursued in the industrialized countries are precluded in this region. Evaluation of the industrialized countries' experience and knowledge of new methods applicable in bioecologically-oriented agriculture are therefore essential. The aim here must be to develop an agricultural sector in which the consumption of costly energy, artificial fertilizers and pesticides, and thus the level of government subsidization, is kept as low as possible. It is not to give priority to the development of the agricultural sector but to speed up the pace of industrialization which, in the small and medium-sized countries in particular, will not be possible until modern technology and modern production methods are introduced in the agricultural sector.

2. Although industrialization requires concentration of the population and the emergence of centres of economic agglomeration, the processes of urbanization and economic concentration, proceeding almost unchecked as they did in the region in the absence of government counteraction, soon generated marginalization tendencies and had a deleterious effect on the

economy as a whole. Political, administrative, and financial decentralization would counteract the urban agglomeration process and the neglect of the hinterland and of "absolute poverty", and change the features of the industrialization process. Stimulating regions and communities to act on their own responsibility and initiative and encouraging self-help organizations are instrumental in invigorating and expanding the non-durable consumer and capital goods industries, thereby broadening the basis for industrialization and rendering it more independent.

The objective of tapping neglected regional and local potential via decentralized development is not to initiate a process of "self-centred regionalization" or "regionally centred development" but rather to counterbalance concentrations of population and agglomeration (as has recently been done in Spain), if possible *without* obstructing the development of national industrial cores or diminishing their international competitiveness. Advantage must be taken of the many attempts made and initiatives launched to develop regional circuits. Although special schemes such as that designed to assist the North-East of Brazil are justifiable, emphasis should initially be placed on the elimination of intra-regional economic and social imbalances rather than on financial compensation to offset the discrepancies between rich and poor regions such as is customary in the industrialized countries. Priority should be attached in this context to strengthening financial authority at the regional and local levels and to developing small towns ("agro-urban centres") in the hinterland.

In this decentralization endeavour, much depends on ensuring that the municipal level is geared to the concept of self-help. Experience in Latin America has shown that even countries which have made some progress in industrialization cannot imitate the industrialized countries in the provision of a national social security system and must in any case avoid the cost explosion which has occurred in the OECD welfare states. Furthermore, the burden on central government must be eased wherever possible so that it can concentrate on the major tasks of guiding and controlling the industrialization process. The State should stimulate, guide and monitor, but provide only subsidiary support for local self-reliance. Developing countries will therefore differ from industrialized countries in the distinction which they must make between individual responsibility and social security, especially in view of the extreme importance of moulding together into small, uncomplicated, closely-knit communities a population which has become individualized in the wake of migratory processes and is held together, if at all, by an unstable family structure, and in which distrust is the predominating social sentiment. The public interest can only become a generally meaningful value if society is organized from the bottom up: in small groups, especially self-help groups to combat poverty, and community structures at the local level.

3. Dynamic industrialization is inconceivable without mastery of technology. The technological development of industry, for its part, in turn presupposes an appropriate mentality: no industrial revolution can take place without a revolution in value systems. In Latin America, however, industrialization began in a society in which, despite numerous adjustments, traditional values still predominate. The countries of the region selected the capital investment option, but accepted the rent-seeking attitude of the investors. At the same time, they neglected the most important factor of development, namely, the creation of satisfactory resources in terms of human capital.

Perhaps the most important cause of the dependence incurred by the incorporation of technology was the shortage of technical skills. The education and training system reflects the imbalances prevailing in the economic field: the lower strata of society have the doubtful privilege of undergoing an extended period of education during which they learn little or nothing about self-help and technology. Except in Brazil, the size of the skilled workforce has remained limited, and the scant provision made for training is normally concentrated in special institutions (SENA, etc.). The universities produce large numbers of intellectuals who understand little of industrialization and, because of the social inequities and obstacles to their own careers, set their sights on political change. The domestic and foreign private sector prefers to recruit its highly qualified employees from foreign or national private colleges.

Priority needs to be given to an education and training offensive to generate basic and versatile skills and promote a generalized mastery of technology, including the new technologies. Only such an offensive would make it possible to reinforce self-help capacity among broad population groups, to ensure understanding of various technological levels and the combination of these, to develop selected key technologies, to establish a dynamic innovation system with a high level of technological flexibility, and, Finally, to create a "national technological culture".

At this stage, rapid adaptation and imitation of technologies is more important than basic research. "Technological independence" cannot be achieved within the foreseeable future, but this time-span can certainly bring a continual reinforcement of "technological autonomy", which ought to be directed towards ensuring a rapid increase in productivity, in particular by means of the new key technologies. The path towards the commercialization of adapted or imitated technologies can be shortened, especially if it is possible for industry and research institutes to work in close co-operation. However, intensive and continuous co-operation between the universities and industry will not be possible until profound reforms have been implemented in the long-since dysfunctional university sector. A measure of the stature of the new democracies in the region will be whether or not they can be successful in implementing reforms such as these, which do not represent a primarily financial problem.

4. The international learning process is tending towards the view that dynamic industrialization is possible only if an autonomous industrial and technological core can be created and constantly strengthened. "Industrialization" implies the creation of a national industrial core, in particular in the capital goods industry, which possesses the technological competence to modernize the entire production sector to an increasing extent out of its own resources. This core can only develop from a sustained and co-ordinated commitment on the part of government, industry, and research institutions. A country which relies exclusively on the free forces of the market is in effect consolidating its state of backwardness and will be largely negatively affected by the new technologies. It may even be said that an import-substituting industrialization which does not seek to establish a technologically competent industrial core and to promote technical progress in all sectors can at best aspire to earn such large amounts of foreign exchange revenue from its exports of raw materials that it is able to advance in step with the technological state of the art in the industrial countries by virtue of constant imports of capital goods.

It is astonishing that technological competence within the State and national companies in the countries of Latin America has remained so low. Little effort was made over a period of decades to back up industrial development by establishing independent technological expertise. Technological and entrepreneurial capacity for adaptation and imitation remained limited, and, economic linkages were slow to multiply. Industrialization failed to develop sufficient momentum of its own because import substitution was based on foreign technologies and, in many dynamic sectors of industry, on foreign direct investment. It was not until the 1970s that the institutional conditions for importing and developing technology were improved in the larger countries. But even now, only Brazil has the ability to ensure the rapid incorporation of technology and, in a few sectors only, to achieve autonomous technological development.

The only developing countries which can undergo a process of dynamic industrialization are those which succeed in incorporating traditional *and* new technologies strictly in accordance with their needs and on a low-cost basis. A "forward-looking strategy" at technological level is required before it is possible to incorporate several generations of technology simultaneously, to make "development leaps", to develop constructive relations with foreign companies, to proceed beyond complementary foreign trade in at least some selected fields, and to enter the international technology race. For all developing countries, however, a minimum level of technological competence is essential if advantage is to be taken of the opportunities offered by both old and new technologies and national control over the development process is to be gradually extended.

5. How many technologically competent firms, how many national firms that are internationally competitive are operating on the

economies of large countries such as Mexico or Argentina? This question is even more legitimate when viewed in the context of comparison with the countries of East and South-East Asia, where the industrialization process in many cases is of much more recent date. The propelling force of industrialization in market economies, i.e., the private companies, which take most of the decisions on production and investment, remains undeveloped. Even in Brazil the industrial bourgeoisie drops into third place behind government and foreign capital in many key sectors. Given this situation, it not uncommonly happens that too little attention is paid to the functions which the private sector should perform in industrialization, in developing technology, and in exporting manufactures. This is particularly true with respect to the following;

— the development of a small group of large, efficient, national companies with diversified production, innovative capacity, and financial management jsystems, which are instrumental in ensuring active integration into the world market and may come to resemble multinational groups;
— the emergence of technologically up-to-date small and medium-sized enterprises such as those which play an important role in the OECD countries as subcontractors —rendering the larger companies more competitive— and also in the innovation process;
— the restructuring of labour-intensive small and medium-sized firms in traditional sectors of industry which have an entrepreneurial and employment potential that has so far remained largely untapped and which have been slow in fulfilling their functions in the fields of production, distribution, and provision of services.

# IV
# Objectives and instruments of a complex industrialization strategy

The implementation of such a concept is dependent on whether or not the new democracies can succeed in strengthening the autonomy of the State and at the same time can upgrade its capacities for concertation, monitoring, and control. Because political will is not clearly agglomerated and administrative capacities are inadequate, in many instances governments have so far not even been successful in indicating a clear course for the public sector to adopt. Countries such as Argentina are largely "undermanaged"; they show evidence of accumulated institutional deficits which could only be remedied over a space of years because of vested interests and considerations ofparty politics. Decisions on industry policy or regional policy, for example, are often taken without reference to the criteria of economic profitability. Inspection and evaluation exercises cannot suffice to direct attention to more efficient and less costly options. Of particular importance is the lack of modern systems of "bonuses and sanctions" both in the public sector and in relations between government and enterprise, such a system being required for any transition to the phase of "intensive industrialization".

However important stable macroeconomic conditions may be, macroeconomic control alone is not sufficient —as is evident in the industrial countries too— to manage the technological upheaval and its profound social implications. Indeed, macroeconomic steering must be complemented by enterprise-oriented policies which single out areas of emphasis in a number of selected fields. The establishment of clear focal areas and the creation of sufficient negotiating authority to have these consolidated are much more important than the still popular formulation of comprehensive macroeconomic and sectoral plans, for example. The various spheres of policy (industrial policy, regional policy, etc.) should be directed towards consolidating these focal areas, reconciling apparently contradictory elements therein, correcting the imbalances

which continually emerge in the wake of economic growth, and smoothing the path for industrialization.

Industrial policy should be directed towards strengthening the national industrial core and upgrading international competitiveness. It should be concentrated on a few areas having favourable prospects for development, and be selectively designed so as to support a small group of modern entrepreneurs. In the field of the new spearhead technologies, attention must be directed towards the high-volume, standardized product path in a small group of strongly export-oriented foreign companies, and also towards the rapid diffusion to virtually all fields of the economy, using medium-sized national enterprises as vehicles, of the innovations in the computer industry (this having the currently most important key technology) as well as in the information and communication industry. The development of such medium-sized national firms could be supported by means of fixed-period protection and promotion programmes. An over-complicated network of policies and instruments such as tends to impose too much strain on both the public administration and the entrepreneurial sector could be avoided by establishing an efficient development bank which would support industrial and technological change with inter-company linkage contracts, participations and consultancy programmes.

The capital goods industry should be given top priority. Its expansion should focus not on large-scale projects requiring considerable capital and imports but wherever possible on the intelligent deployment of modern technologies. This is likely to be feasible wherever governments and companies can agree on "technological grading", for example. Whereas the neoliberal experiments have frequently led to an upturn in import business, both government purchasing and private-sector demand should in the future look more towards domestic sources of capital goods. The State should place obstacles in the way of channelling investment towards projects in which economic profitability is of only secondary importance. Despite positive effects on the overall economy, tax incentives for investment in construction should be eliminated in the interest of supporting readiness to commit venture capital. In addition, structural change should be promoted directly, for example through cheap loans to companies which have excelled by virtue of innovation effort or export expansion.

Further concentration on the basic industry sector would in any case be extremely difficult to finance, would provide the region with excess capacity, and would represent an erroneous path of specialization for many small medium-sized countries, even within a context of regionalization. The process of consolidation should advance hand-in-hand with a gradual elimination of subsidies, especially in industries which are stagnating or in decline in the industrial countries. The consumer goods industry should concentrate in future on mass-produced consumer goods rather than on complex durables. Here, the objective should not be to widen the range of products but to increase demand by standardizing products, limiting production to a few models and types only, and introducing other measures to bring down costs, many of which would also reduce energy consumption and would be more acceptable from the environmental viewpoint (e.g., a move away from the principle of producing disposable articles). In weak industries, restructuring programmes such as those introduced in Southern Europe should be launched. Restrictions on the development of the basic industry sector and consumer durables should be paralleled by restrictions imposed for several years on the extension of material infrastructure; despite grave problems of indebtedness, in some countries there has been but little evidence of this.

In technology policy the primary need at this stage is to optimize technologies imported from the industrial countries: for example, to place greater emphasis than hitherto on acquiring technologies on the basis of licenses and other forms of co-operation not involving capital participation, and then adapting the technologies thus acquired to specifically national needs. The technologies selected should be amenable to broad-based diffusion in the agricultural sector, the agroindustries, and industries producing mass consumer goods and capital goods. Here, the scope for action open to governments and companies could best be maximized by means of

a series of relatively small but technology-intensive investments. Modern production and information technologies, precisely because of their flexibility, make it possible to manufacture in small series on a viable basis. Assuming a predominance of clear-cut, smaller projects carried out mainly by domestic firms and financed with domestic funds, demand for imported capital and goods would decline and exports of industrial goods expand. In addition, this would be instrumental in reducing the problems encountered in the employment and environmental fields.

It appears important to emphasize that it would not suffice to establish a small technologically modern export sector. The aim should be to bring about a general improvement in the efficiency of the economy, in the level of technology it relies on, and in the quality of workmanship and service, so that more and more sectors may become increasingly competitive. Specialization, selectivity, and flexibility are possible, especially if they can draw on a generally modern industrial apparatus. An aggressive export orientation calls for efficiency in a constantly expanding domestic market. The government can support the establishment of a broad technological base by providing favourable conditions for investment by introducing reforms in the education and training system, by making effective use of the media, by introducing new technologies in the public administration and by taking suitable measures in government procurement policy, investment financing, and external economic relations.

Of decisive importance is the implementation of strategies to build up a core of medium-sized enterprises which are equipped with modern technologies and prepared to operate on competitive markets. In many countries there is no shortage of firms which, given a suitable bonus and sanction system, could develop into agents of change. Even a small group of "new companies" can exert pressure to adapt on larger companies, many of which show weaknesses from the viewpoints of research and development and export business; such a group can also be instrumental in modernizing small and medium supply firms, and can furthermore introduce modern concepts of labour relations. Only a new entrepreneurial core such as this can pave the way for the transition to "intensive industrialization". It is the only agent capable of supporting that type of industrialization which the new technologies render economical in its inputs of energy, materials, and capital investment. As soon as this core offers sound prospects, it will contribute towards mobilizing residual capital and bringing back capital expedited elsewhere.

The employment problem can be alleviated only in the event that various factors can be made to coincide: a high rate of economic growth accompanied by dynamic inward expansion; better-balanced distribution, to be brought about primarily via structural reforms in the agricultural sector and the creation of intermediary organizations; the juxtaposition of various technological levels, in particular a combination of high-level and low-level technologies in the industrial sector, such as is found in China; and in addition a redistribution of the volume of labour and expansion of the education and training process. Furthermore, short-term special programmes to reduce unemployment are indispensable (small dams, rural road construction, housing, social services, reafforestation programmes). Infrastructure and production-oriented measures of this type, which would not infrequently obviate the need for major projects heavily dependent on external financing, ought to absorb more than 20% of the labour force in many countries, thereby substantially alleviating the employment problem. The programmes should be transformed into local programmes as soon as possible. Finally, it is essential that population growth be drastically curtailed. Most Latin American experts agree that the problem of absolute poverty or pauperization is financially and organizationally soluble, even during a period of recession such as this, provided the countries concerned make sufficient effort to solve it; the problem, it is claimed, remains unsolved for want of political attention.

Apart from the social costs involved, the price paid for industrialization in ecological terms is extremely high, even in the earlier stages of the process. But neither the public nor governments are as yet sufficiently aware of the need to protect the environment. Despite the catastrophic conditions prevailing in some areas of agglomeration, very little is spent on environmental protection. Road traffic is largely

responsible for air pollution. Rail networks could be developed with little external assistance, incorporating road-and-rail links for example, or in combination with a network providing bicycle tracks, of which there are very few at present. In addition to consideration of such energy-conserving, less environmentally offensive, and lower-cost transport systems, importance should also be attached to regionalizing the automotive industry, thereby permitting its thorough modernization, and likewise to introducing speed restrictions such as those imposed in almost all industrialized countries. The aim in the industrial sector in this respect should be not only to extend the inspection and monitoring systems (ex-post environmental protection) but also to examine industries *before* they develop with a view to ensuring their environmental compatibility. At least those of the industrialized countries' environmental and nature conservation policies which are not excessively expensive could be emulated in the short term. If ecological disasters are to be avoided, a number of projects will have to be abandoned.

The low level of progress towards integration made in past decades can be ascribed primarily to the fact that although relatively weak countries have endeavoured to form regional associations, the larger countries have set virtually no store by regional markets, regarding national industrialization as their priority. It was not until the mid-1970s that it became evident that they would likewise have to rely on an intra-regional industrial division of labour in order to achieve economies of scale, and that regional co-operation was indispensable in view of the pace of technological innovation. As can be seen from the example of the European Community, the fragmentation of an industrial area cannot be remedied simply by establishing a customs union. What is needed is a joint strategy in the fields of science, technology, and industry. Research and development programmes have been but few in number to date in Latin America, this omission being particularly grave in the field of the new key technologies.

More realistic than an integration model which is overambitious in terms of political and planning possibilities is a form of regionalization which takes account ofthe growing discrepancies in levels of industrialization. The determining factor here is the interest felt by the larger countries in having stable regional markets for their manufactures, providing, of course, that their supply capacity is sufficiently advanced to permit production at world market price levels. Close co-operation among the industrial agglomeration centres within the region will have spill-over and spread effects that will benefit the other countries, which are unable to develop so differentiated an industrial structure and have to seek niches for their exports by resorting to industrial specialization. The process of negotiation between the advanced and the less advanced countries will determine whether traditional forms of the division of labour can be dispensed with òr can be gradually displaced.

Latin America has to overcome its "export pessimism" in a situation wherein the multilateral trade order set forth in GATT is exposed to progressive erosion, protectionism among the industrial countries is becoming yet more pronounced, and the new information and organization technologies are rendering the trade position ofthe region even more difficult. In the case of labour-intensive industrial goods in particular, the developing countries' export opportunities are diminishing in consequence of technological innovation. This consideration lends substance to the call for "technological development leaps". Active relations with the industrial countries will become indispensable, their nature being dependent on the level of industrialization achieved and also on amenability to the continuing furtherance of the industrialization process. The region should enter upon an emulation race which is backed by active but selective policies in the fields of trade, foreign investment, technological and scientific co-operation and development financing. In many cases, "countertrade" will be inevitable during the initial period; the decisive factor, however, is arrival, step by step, at a high level of efficiency, creativity, and competitiveness on the basis of technological modernization throughout a large part of the production apparatus.

Such a complex strategy can be implemented effectively only if the fronts shaping domestic politics, which were stiffened during the 1970s, become more relaxed and it proves possible to bring together social and political forces in the interests of a "social project". The resolve to co-

operate is much more in evidence today in many countries, and, providing adequate governmental co-ordination is forthcoming, could really afford scope for broad-based "social pacts". This is all the more probable in the light of the fact that those strata which tended to reject the concept of industrialization have forfeited political power by siding with backward-looking military officers, by engaging in experiments with monetarism, and also as a result of deteriorating terms of trade and the technological developments taking place in the industrial countries (high-fructose corn syrup, single-cell proteins, etc.).

A broad-based consensus is also required because the *leitbiid* of a technology-based growth model —its image as a guide— is indeed problematic. Technological dependence is virtually inevitable during the course of a somewhat protracted learning process. The new technologies have properties which do not only imply economies in input factors, low maintenance costs, and versatility; it should be recalled in particular that they will do little to contribute towards overcoming the employment problem. The social consequences of innovation leaps, as indeed in the industrial countries too, are not of a solely positive nature, and supporting measures are also required to counteract the new imbalances. If the complex industrialization strategies are to solve such problems, they presuppose participation; participation is the essential element ensuring that sufficient motivation, creativity, and human effort is forthcoming to guarantee that such strategies can be successfully carried out.