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Review

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UNITED NATIONS
ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN

SANTIAGO, CHILE, DECEMBER 1988

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LC/G.1537-P

December 1988

Notes and explanation of symbols

The following symbols are used in tables in the *Review*:

Three dots (...) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

A blank space in a table means that the item in question is not applicable.

A minus sign (-) indicates a deficit or decrease, unless otherwise specified.

A point (.) is used to indicate decimals.

A slash (/) indicates a crop year or fiscal year, e.g., 1970/1971.

Use of a hyphen (-) between years, e.g., 1971-1973, indicates reference to the complete number of calendar years involved, including the beginning and end years.

Reference to "tons" mean metric tons, and to "dollars", United States dollars, unless otherwise stated.

Unless otherwise stated, references to annual rates of growth or variation signify compound annual rates.

Individual figures and percentages in tables do not necessarily add up to corresponding totals, because of rounding.

UNITED NATIONS PUBLICATION

ISSN 0251-2920

CEPAL

Review

Santiago, Chile

Number 36

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International competitiveness: agreed goal, hard task

*Fernando Fajnzylber**

The topic of industrial restructuring and incorporation of technological progress is one with which both industrialized and developing countries are preoccupied, whether their economies are of the market or of the planned type.

The approach of the industrialized nations to this process is radically different from the one prevailing in Latin America. In the industrialized countries, industrial restructuring is intended to secure improved competitiveness, understood as a country's capacity to expose itself to the external market and to maintain or raise its people's living standards. In Latin America, in contrast, the basic aim, with a few recent exceptions, is to generate a sufficient trade surplus to service the enormous foreign debt; this does not necessarily lead to improved competitiveness and it often lowers the precarious standard of living of large sections of the population. This is the difference between competitiveness based on technological progress, which is what the industrialized nations seek, and competitiveness based on reduction of incomes.

There is a broad range of theories about the factors which initiated this process in the industrialized countries and about its consequences in the economic, social, political and cultural fields. Associated with this broad range of theories there is a similar variety of policy recommendations.

In this article the author seeks to outline the main features of the situation in the advanced countries. He examines the various factors which explain the process, with emphasis on the topic of international competitiveness. He also draws attention to the experience of some of these countries which may be useful in the regional debate.

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I

Underlying reasons for industrial restructuring

The various explanations of this process offered in the past decade differ in their identification of its main determinants, the links between them, and the way in which they affect the situation.

The following are some of the factors which are hard to ignore in a theory which seeks to embrace the topic of industrial restructuring in all its complexity: i) the dizzying rise in the price of oil in the past decade and its erratic subsequent movements; ii) the financial disorder and explosive increase in liquidity; iii) the saturation of the consumption pattern prevailing since mid-century; iv) the shift towards a new technological model based on "information technology" (IT); v) the dramatic improvement in the trade competitiveness of Japan and the new industrialized countries (NICs) of Asia in relation to the rest of the world; and vi) the exacerbation of the fiscal and external imbalances of the United States, the pivot and basic point of reference of the world's economic expansion in the post-war period.

Although of different kinds, these factors are interrelated and they have been subject to changing priorities in recent years. From 1973 attention was focused on the oil price hike and the uncontrolled expansion of liquidity, factors linked to each other through the recycling of the revenues of the oil-producing countries. Towards the end of the 1970s, when people became aware of the structural origins of the world economy's loss of vigour, the other factors were given greater attention. These factors were interrelated because the protagonists —Japan and the Asian NICs— had succeeded in the task of incorporating new internationally tradeable consumer goods and the plants and processes required for their production —the IT devised and developed by engineers in activities associated mainly with the United States space and military programme.

By the middle of the current decade the imbalances in the United States economy had reached unprecedented proportions. This underlined the precariousness of that country's growth

since 1983 which had served as the locomotive of the world economy.

There are several hypotheses on offer with respect to the causal relations between the factors described above. It cannot be denied that all of them must be taken into account in the formulation of policies for industrial restructuring. It must be recognized, however, that in the industrialized countries the question of competitiveness dominates the academic and political debate and the rest of the topic is organized around it. Industrial restructuring is understood in these countries basically as the need to adapt to the challenge of competition.

The school of thinking which focuses its analysis on technological change¹ maintains that the world will not emerge from the present cycle, characterized by an overall loss of vigour, without the introduction in the economic, social and political spheres of innovations which will incorporate and make full use of the new "technical economic paradigm". Some of its main consequences will be: i) reduced importance of economies of scale based on mass production using capital-intensive techniques; ii) greater integration within a company of the functions of design, production, purchasing, and research and development; iii) the capacity rapidly to change products and processes; iv) co-ordination of integrated networks of suppliers of parts and components, assembly plants, distributors and research and development laboratories, with major saving of capital; and v) emergence of new service activities associated with production (software, design, technical information) which can be carried out by small companies.

This line of argument calls for comment. Of course, the debate about the validity of the "welfare State" in the industrialized countries—and to some extent in the planned-economy countries—is a response to the "threat" of the increased international competitiveness of Japan and its Asian disciples. IT requires institutional changes and makes them viable, but there is clear awareness of the danger of increasing inability to compete in international markets.

¹See Schumpeter (1950), Mensch (1979), Freeman and Soete (1982, 1985), and Freeman (1987). A fundamental questioning of the validity of "long waves" will be found in Rosenberg and Frischtak (1984), pp. 7-24.

Japan's astonishing assault on the world economy—specifically on the United States market—is due both to external and to internal factors. The most decisive external factor is the scale, vigour and openness of the United States economy in spite of the various protectionist pressures brought to bear at the sectoral level. The internal factors which explain the exceptional efficiency and speed with which Japan has incorporated IT in products and processes include: i) the capacity, at the national and company level, to identify areas of technology of strategic importance in the medium and long term; ii) the existence of institutional machinery capable of channeling to these areas enormous resources for investment and technological development; iii) the flexibility of the industrial structure, based in particular on the links between leading conglomerates and small and medium-sized industries; and iv) the systematic approach to the design of products and processes and the co-ordination of planning and manufacturing activities.

It is also true that the peculiar international financial system has a great impact on institutions—in addition to its direct influence on the real economy—for it even casts doubt on the independence of national States in determining their economic policies.

It could be argued that IT plays a cardinal role both in Japan and in the functioning of the international system, but this should not prevent recognition of the importance and specific nature of each of these phenomena. In turn, the subsequent development of the United States economy and its competitiveness in relation to Japan and the Federal Republic of Germany will have a great influence on the other factors. The "institutional" solutions adopted by the United States will determine to some extent the performance of the financial system, the nature of the restructuring which Japan and the Federal Republic have to undertake, the intensity and modalities of the mass extension of the use of IT, the management of a whole new consumption pattern, and, to a lesser extent, the movement of the oil market.

There now follows a brief comparison of the international engagement of these three countries, designed to establish a frame of reference for the subsequent discussion.

II

The international engagement of the leading industrial countries

The population of the three countries in question—the United States, Japan and the Federal Republic of Germany—accounts for about 9% of the world's population and is similar in size to Latin America's. However, their economic weight is very impressive, for they generate 40% of the world product, and their productivity is four times the world average. Furthermore, they account for one-half and about 75% respectively of the resources which the international community and OECD spend on research and development; their per capita expenditure under these headings is five times the world average.

For these reasons, the performance of these countries shapes the profile of the world industrial system and is representative of its main features. Leaving aside the current trade tensions, there is no doubt that the type of product and the manufacturing processes and methods prevailing in the world economy are the fruit of the interaction between these three countries, as are the institutional agreements and the access which other countries can have to the future evolution of knowledge in the various industrial sectors.

There are important differences between the United States on the one hand and Japan and the Federal Republic on the other (table 1). The United States possesses a much broader scientific production base. The ratio of its scientific writers to the population at large is seven times the world average, while in the Federal Republic it is four times and in Japan only twice that average. In clear contrast, the manufacturing output of these latter two countries, taken together, is already nearly 20% higher than the United States output, although their population is one-fifth smaller. The imbalance in the United States seems to be attributable to some degree to the volume of resources which it spends for military purposes, purposes for which Japan and the Federal Republic spend insignificant amounts, in compliance with the obligations imposed on them at the end of the Second World War.

Table 1

ECONOMIC AND TECHNOLOGICAL WEIGHT OF THE UNITED STATES, JAPAN AND THE FEDERAL REPUBLIC OF GERMANY IN ABOUT 1980

(Percentages of world total)

	United States	Japan	Federal Republic
1. Population	5.0	2.5	1.3
2. Gross domestic product	27.0	9.4	5.8
3. Manufacturing product	18.0	11.7	9.4
4. Capital goods	14.7	11.1	9.6
5. Engineers and scientists	17.4	12.8	3.4
6. Resources spent on research and technological development	30.1	10.2	6.7
7. Scientific writers	35.0	4.9	5.4

Source: ECLAC/UNIDO Joint Division, on the basis of data of the United Nations, UNIDO and UNESCO. *International Science and Technology Data, Updated 1986*, National Science Foundation and Current Bibliographical Directory.

It is worth noting that the ratio of engineers and scientists in Japan is five times the world average, while in the United States and the Federal Republic it is only three times that average, in very approximate terms. When it comes to numbers of lawyers, in contrast, first place belongs to the United States (279 per 100 000 inhabitants, as against 77 in the Federal Republic and 11 in Japan).²

Lack of natural resources is a structural datum in the cases of Japan and the Federal Republic, but the United States is generously endowed and has a territory of continental dimensions (table 2). Accordingly, the first two countries are obliged to secure a solid share of international trade in manufactures, which the United States views, in contrast, as a strictly supplementary and marginal factor, and it does not take very much interest in the allocation of sectoral priorities either. The people of the Uni-

²See *The Economist*, 22 August 1987.

ted States still hold the view, bolstered by the economic hegemony which their country exercised for 40 years, that their main market is the domestic one and that, although the relative importance of the various sectors may change over time, the system as a whole appeared, at least up to the end of the 1970s, little short of invulnerable. Several analysts confirm the dominance in economic, political and academic circles of an outlook focused on domestic problems (Branson and others, 1980; Lodge, 1986; Zysman and Tyson, 1983; Oxford Analytica, 1986; Lodge and Vogel, 1987).

The 1973 oil price hike placed an additional heavy burden on the three countries. However, in the cases of Japan and the Federal Republic, the higher energy bill was offset by growth in the

manufacturing sector's surplus. On the other hand, the United States energy deficit was aggravated by a considerable erosion — about US\$8 000 million between 1975 and 1981— of its manufacturing surplus. Industrial performance was markedly better in Japan and the Federal Republic because these two countries had created a support base which enabled them to react flexibly and promptly to the signals of the forthcoming demise of the era of cheap energy.

The differences in the performance of the manufacturing sector were accentuated from the mid-1970s. Accordingly, by the middle of the current decade Japan and the Federal Republic had a joint trade surplus already close to US\$200 000 million in the manufacturing sec-

Table 2

UNITED STATES, JAPAN AND THE FEDERAL REPUBLIC OF GERMANY: TRADE BALANCES BY SECTOR OF ECONOMIC ACTIVITY

(Millions of dollars)

	1970	1975	1981	1982	1983	1984	1985
Agriculture:							
United States	631	12 069	25 344	19 728	16 518	13 307	3 659
Japan	-5 292	-13 931	-24 929	-23 508	-23 301	-25 776	...
Federal Republic of Germany	-5 774	-10 145	-13 441	-12 852	-12 868	-15 568	...
Manufacturing industry:^a							
United States	4 154	21 196	13 369	-3 942	-28 925	-82 377	-107 566
Japan	13 180	42 393	119 152	107 197	113 403	131 689	...
Federal Republic of Germany	14 424	39 338	62 317	68 174	59 013	60 235	...
Energy:							
United States	-1 480	-21 922	-73 974	-54 665	-50 349	-53 814	-45 759
Japan	-3 858	-25 432	-72 091	-65 306	-58 636	-59 989	...
Federal Republic of Germany	-1 616	-10 286	-32 723	-29 694	-26 694	-25 545	...
Mining:							
United States	-863	-1 295	-5 183	-3 426	-5 298	-6 424	1 302
Japan	-3 698	-5 734	-11 223	-10 388	-10 055	-10 554	...
Federal Republic of Germany	-2 343	-2 662	-3 835	-3 651	-3 231	-571	...
Other sectors:							
United States	196	640	758	-280	-1 268	188	-245
Japan	105	594	-2 168	-1 095	-877	-1 758	...
Federal Republic of Germany	-318	-431	-176	-712	375	171	...
Totals:							
United States	2 638	10 688	-39 686	-42 585	-69 322	-129 120	-148 609
Japan	437	-2 110	8 741	6 900	20 534	33 611	...
Federal Republic of Germany	4 375	15 814	12 142	21 092	16 595	18 722	...

Source: ECLAC/UNIDO Joint Division, on the basis of United Nations figures. *International Trade Statistics Yearbook*, 1970-1971, 1977, 1983 and 1984, and *Commodity Trade Statistics*, 1985.

^aManufactures includes SITC sections 5 to 8, except for division 68.

tor, while the United States had a deficit of over US\$80 000 million. The first two countries were the most important source of the world manufacturing surplus; but the United States was the country with the clearest manufacturing deficit.

In the early 1970s, the three countries had fairly modest surpluses of comparable orders of magnitude, although they were bigger in Japan and the Federal Republic. In barely 15 years, then, the relative position has been turned around. The United States, which at the end of the Second World War generated 60% of the world's industrial output, now finds itself in the mid-1980s in a subordinate position to the very two countries which stood in ruins at the end of that conflict.

At the beginning of the 1980s the international engagement of the United States was very similar to that of most of the Latin American countries. It was based on the farming sector, in which there was a considerable surplus. Under all the other headings the United States economy was in deficit, especially in the manufacturing sector, so that changes in the terms of trade became a matter of vital importance for the United States.

There are no reasons to suppose that the historical trend of the erosion of the terms of trade of the farm sector in relation to the industrial sector will come to an end. If the export and import volumes of agricultural and industrial goods remain constant, the United States will experience a growing deterioration associated with the evolution of the terms of trade at the world level. Thus, the preoccupation with this variable—until a few years ago considered part of Latin American folklore—is now affecting the country which leads the world economy.

There is broad agreement on the existence of a strong link between competitiveness, incorporation of technological advances, industrial vigour and increased productivity. Increased competitiveness is an inescapable necessity in a period of transition between two technological models and it is a decisive factor in the medium- and long-term changes in the relative position of countries in the international economy. This is why the efforts being made by the developed countries to improve their competitiveness in the industrial sector warrant from their respective governments a degree of priority similar to

that assigned to the most crucial political problems, a situation found in the past only in time of war. This is borne out by the importance which Europe attaches to its various regional programmes of scientific or technical co-operation.

There is less agreement about how to measure competitiveness and still less about how to increase it. There is agreement that the erosion of productivity which began two decades ago and which has been accelerating since the second half of the 1970s, especially in the United States, is fraught with serious potential consequences. However, there is wide disagreement about the reason for this decline and therefore about the most efficient means of reversing it.

The relative position of the three countries is the same in all seven of the alternative indicators of competitiveness considered in this article: Japan first, the Federal Republic second, and the United States last (table 3).

The research and development effort for civilian purposes is significantly greater in Japan and the Federal Republic, and several studies mention this fact as a possible reason for the different growth rates of competitiveness in the three countries. On the other hand, the dynamism of Japan's industrial exports has been overwhelming in the last few decades; their growth rate is double that of the overseas sales of the other two countries. Japan also leads the way in the share of products with the largest technological content in total exports of manufactures. It is no surprise, therefore, that in 1983 the Federal Republic's share in world sales of these products was the same as 20 years earlier, the United States share was equivalent to only 74%, and Japan's share had increased almost fivefold.

The next indicator used in this exercise relates more specifically to the competitiveness of the goods called engineering products, which are those with a high content of modern technology, as pointed out earlier. The exports/imports ratio for this kind of goods was nearly 4:1 in 1963 in the United States and West German economies but it was much lower in both countries in 1983, although more so in the United States. In Japan, in contrast, the ratio increased almost fivefold in the period.

The rate of increase of productivity, a decisive factor in the long-term evolution of competitiveness has weakened from the mid-1970s.

This phenomenon has been more intense in the United States, where the improvement had been slower in the previous period. The productivity growth rate in the two subperiods considered here is higher in Japan, followed by the Federal Republic, maintaining the constant situation observed in all the indicators (table 3).

This order applies not only to the level but also to the path of competitiveness, as can be seen from a comparison of the exports/imports ratio of manufactures in the three-year period 1979-1981. It is five for Japan, less than two for the Federal Republic, and barely one for the United States.

III

Determinants of international competitiveness

In the medium and long term, competitiveness is a country's capacity to sustain and expand its share of international markets and at the same time to improve its people's standard of living. This requires increased productivity and therefore the incorporation of technological advances.

International experience teaches that there is no "other way" to secure a solid improvement

in a country's competitiveness. It is true that in the short term devaluation of a country's currency improves the relative position of its business sector. However, this resort is of limited effectiveness because it does not in itself increase productivity or encourage the incorporation of technological advances. On the other hand, it tends to erode social cohesion, and this subse-

Table 3

INTERNATIONAL COMPETITIVENESS: VARIOUS INDICATORS

	United States	Japan	Federal Republic of Germany
R & D expenditure/GDP (1983-1984)	1.8 (3)	2.5 (1)	2.4 (2)
Percentage increase export manufactures (1983-1963)	7.9 (3)	18.4 (1)	9.3 (2)
Exports capital goods/total exports manufactures (1983) (percentage)	44 (3)	58 (1)	46 (2)
Exports capital goods/world exports capital goods (1983-1963) (percentage)	74 (3)	475 (1)	100 (2)
Exports capital goods/imports capital goods (percentage)			
1983	100	950	267
1963	383 (3)	200 (1)	380 (2)
Growth manufacturing productivity (percentage)			
1975-1981	1.7	8.7	3.2
1965-1973	2.8 (3)	11.0 (1)	4.2 (2)
Exports manufactures/imports manufactures 1979-1981	1.0 (3)	5.0 (1)	1.8 (2)

Source: ECLAC/UNIDO Joint Division, *Global Competition*, p. 100; United Nations, *Bulletin of Statistics on World Trade in Engineering Products*, 1983; *World Bank Report*, Productivity in industry, OECD, 1986.

quently works against the viability of more effective international engagement. It is natural that countries should endeavour to increase their international competitiveness by making use of the available cheap manpower and of subsidized lines of credit and to offset the small or even negative margins in the external market with high profits obtained in the protected domestic market, or to use specific tax exemptions, etc. They may achieve satisfactory profits in this way, but these profits will have little to do with an increase in the country's competitiveness, taken in the broad sense, even though the trade balance and the exports coefficient may also show improvements.

From a narrow perspective, it can be argued that Latin America has made great progress in its international competitiveness during the 1980s. But this progress appears spurious when a more integrated approach is taken, for there has been a decline in per capita income, a fall in investment coefficients, smaller expenditure on technological research and development and education, and erosion of real wages.

This is not to neglect the fact that in recent years some countries or sectors have achieved "genuine" increases in competitiveness—in contrast to what would be a "false" increase—based on improved productivity resulting from the incorporation of technological advances. Such a development is an important prelude to the accomplishment of effective modernization of the production apparatus.

The considerable increase in the trade surpluses of many of the region's countries has been achieved for the sole purpose of sustaining the large transfer of financial resources required by service of the external debt, and it has thus not satisfied any of the essential requirements of genuine modernization. It should not be confused therefore with the auspicious beginning of a process of sustained and solid improvement of the competitiveness of the Latin American production apparatus.

It has already been pointed out that in the short term the only policy tool which can affect a country's competitiveness quickly and substantially is the exchange rate. However, an analysis of the medium term will reveal divergent trends in the relative positions of the industrialized nations in international trade in manufactured goods.

What happened in the 1980s, with the erratic fluctuations in the dollar—sharp rise to 1985 and subsequent fall—demonstrates that, despite the marked variations in trade flows, the long-term trends persist, i.e., erosion of the industrial competitiveness of the United States, steady rise of Japan, and slight improvement of the Federal Republic. It must be concluded therefore that the differences in international engagement are due to a large extent to structural factors which also affect the modalities and results of the national strategies and the use which each country makes of specific tools of economic and industrial policy.

There now follows an attempt to identify some of the factors which explain the countries' different competitiveness in the industrial sector.

1. *The rate of investment*

The investment coefficient goes far to explain increased productivity (Denison, 1980). Countries with sluggish investment rates experience a decline in their productivity growth rate and therefore in their competitiveness, as demonstrated by the experience of Japan, the United States and the United Kingdom in the past three decades. Japan and the nine industrialized countries of Asia demonstrate that increases in the investment rate translate into considerable improvements in competitiveness.

2. *Allocation of investment resources*

Industrial restructuring implies the movement between sectors of large volumes of investment resources, a process involving companies, the financial system and the public sector, and one which has different characteristics in each country, depending on the relative importance of the various actors and their mutual relationships (Zysman, 1984).

In the United States and the United Kingdom the level of corporate debt to the financial system is substantially lower than in Japan, the Federal Republic and France (table 4). In the first two countries, the capital market determines the destination of savings, including those generated in the companies themselves, which may be used for investment, financial specula-

Table 4

**DEBT COEFFICIENT/COMMERCIAL VALUE OF THE ASSETS OF THE
NON-FINANCIAL BUSINESS SECTOR**

(Percentages)

Country	1966- 1973	1974- 1979	1980	1981	1982	1983	1984	1985
United States	0.54	0.96	0.77	0.92	0.87	0.78	0.90	0.83
Japan	3.08	3.31	3.14	2.91	2.92	2.68	2.11	1.82 ^a
Federal Republic of Germany ^b	2.38	3.36	3.85	4.13	4.11	3.48	3.42	2.39
France	1.17 ^c	1.33	1.23	1.40	1.55	1.56	...	...
United Kingdom	0.67	1.38	1.13	1.23	1.03	0.87	0.74	0.70 ^a

Source: ECLAC/UNIDO Joint Division, on the basis of Bank for International Settlements, *Fifty-Sixth Annual Report, April 1985-March 1986*.

^a Estimates.

^b All businesses, except for housing sector.

^c 1970-1973.

tion or personal consumer loans. In the other countries, in contrast, a specific percentage of investment resources (large projects) is allocated in accordance with sectoral priorities determined institutionally by the banking system or the public sector, i.e., regardless of who has generated the savings (table 5).

*3. The labour market
and the "welfare State"*

Industrial restructuring implies relocations which inevitably involve high human and economic costs. This invests with great importance the question of the "rigidities in the labour market", which has led to the questioning of the "welfare State" (Pfaller, 1987; Daudestadt, 1987).

The decades of growth and prosperity created an institutional system which complemented and reduced the effects of the free play of market forces. Through the establishment of minimum wages, the introduction of wage indexing, the payment of unemployment and other social-security benefits, the implementation of training programmes, and the granting of regional subsidies, this institutional system provided protection and support for the relatively disadvantaged social groups, production sectors and geographical areas. The constant expansion of this system, which was funded partly by business, has seriously undermined

microeconomic-social efficiency, rendering it incompatible with the demands of international competitiveness.

The problem is that this "welfare State" also provided benefits of the macroeconomic-social kind, which acquire special importance in the times of structural change. They include the social legitimacy of the institutions, which promotes social cohesion, and the existence of an advanced education system and therefore of a highly qualified labour force. It may be added that it is difficult to perceive through aggregate indicators the true nature and dimensions of the "welfare State". More important than the quantitative weight of the public institutions is the

Table 5

**TYPOLOGY OF FINANCIAL-INDUSTRIAL
SYSTEMS**

Country	Industrial financial system
Japan, France	Regulated lending with controlled prices
Federal Republic of Germany	Regulated lending by the banking system
United States, United Kingdom	Capital market

Source: J. Zysman, *Governments, Markets and Growth: Financial Systems and the Politics of Industrial Change*, Cornell University Press, 1983.

kind of relationship established between them and the business and labour sectors. Furthermore, despite the revival of "pre-Keynesian" rhetoric the quantitative weight of the public sector and of social security in industrialized countries has not declined (tables 6, 7 and 8).

The most substantial differences are between Japan and the United States, even though in both these countries the economic weight of the public sector is relatively small in comparison with the situation in European countries. These differences are due to the opposite methods of integration between the public and private sectors, which manifest themselves in sharp differences in the use of policy tools by the Japanese and United States authorities.

The European labour market has acquired considerable flexibility during the 1980s. Wage indexing has been adjusted (Italy, Belgium and France) or abolished (Denmark); part-time work has been encouraged (France and Federal Republic); unemployment benefits have declined in relation to average wages (Denmark and United Kingdom), as have social-security contributions (France, Denmark, Belgium and United Kingdom). Furthermore, part-day working and early retirement are encouraged (Netherlands, Belgium and Federal Republic) and attempts are made to erode administratively (United Kingdom) the role of trade unions in wage negotiations (BIS, 1986). However, the aggregate effect of this process of gradual "flexibilization" has not been, contrary to expectations, to reduce the importance of the public sector in the economy.

4. *Industrial relations*

There is increasing agreement concerning the effect on productivity of management-labour industrial relations at the level of the plant and the industrial sector, as well as at the national level. Despite the differences in institutional modalities, it can be systematically demonstrated that a lower level of conflict in these relations promotes increased productivity. This is demonstrated by the experience of Japan and of the Western European countries in general, in contrast to the experience of the United States and the United Kingdom, where industrial relations are more contentious.

This question acquires greater importance in a period of industrial restructuring when a new technological model is coming into being which requires the constructive co-operation of the various economic, social and political actors in order to "absorb" and distribute the cost of the structural adjustment (Piore, 1986; Brown and Bennett, 1986).

5. *Business organization*

The intensification of international competition, the emergence of a new technological model, and the rapid changes in market preferences are the reasons for the clear trend towards innovation both within the organizational structure of business and in relations between companies. In both cases, vertical hierarchical relations are being replaced by relations of horizontal co-operation. The basic criterion is the achievement of the flexibility which makes it possible to incorporate technological innovations at the right time and to adapt to the changing conditions of demand, in a context of increasing international competition.

The initial premise is that co-operation and compromise amongst people working at the various levels of a company are a decisive factor in securing productivity increases. This applies from the design to the quality-control phase (Arnold and Ken, 1987; Drucker, 1987a and 1987b). From the standpoint of the organizational plan, it means reducing the number of vertical levels and strengthening the horizontal integration at every level.

Co-operation between companies, which takes very diverse forms, has tended to intensify in a context of increasing unification of the international market with respect to supply, demand and technological assets. Some of the more interesting manifestations of this phenomenon are described below.

i) Networks of companies. Assemblers, suppliers, marketers and technological research centres are linked, under flexible agreements, with central co-ordinating offices dealing with finance, advertising and corporate strategy.

ii) Research and development co-operation arrangements between European companies and governments (EUREKA programme).

Table 6

**EMPLOYMENT IN THE PUBLIC ADMINISTRATION AS A PERCENTAGE OF
TOTAL EMPLOYMENT**

Country	1960	1975	1980	1985	Average				
					1960- 1967	1968- 1973	1974- 1979	1980- 1985	1960- 1985
United States	15.7	17.8	16.5	15.8	16.7	17.8	17.0	16.2	19.9
Japan	...	6.5	6.7	6.4	...	...	6.5	6.6	...
Federal Republic of Germany	8.0	13.9	14.9	16.0	9.4	11.6	14.2	15.6	12.4
France	13.1	14.3	15.6	17.8	12.9	13.4	14.7	16.7	14.3
United Kingdom	14.8	20.8	21.1	21.8	15.5	18.5	20.9	21.9	18.9
Italy	8.7	14.0	15.0	15.8	9.9	12.3	14.5	15.5	12.8

Source: ECLAC/UNIDO Joint Division, on the basis of OECD, *Economic Outlook, Historical Statistics 1960-1985*.

Table 7

TOTAL PUBLIC EXPENDITURE AS A PERCENTAGE OF GDP

Country	1960	1975	1980	1985	Average				
					1960- 1967	1968- 1973	1974- 1979	1980- 1985	1960- 1985
United States	27.0	34.6	33.7	36.7	28.3	31.0	32.6	35.6	31.6
Japan	...	27.3	32.6	32.7	...	20.2	28.4	33.3	26.1
Federal Republic of Germany	32.4	48.9	48.3	47.2	35.7	39.8	47.5	48.4	42.3
France	34.6	43.5	46.4	52.4	37.4	39.0	43.7	50.6	42.3
United Kingdom	32.3	46.3	45.1	47.8 ^a	34.7	39.9	44.4	47.0 ^a	40.8
Italy	30.1	43.2	46.1	58.4	31.9	36.0	42.9	54.2	40.5

Source: ECLAC/UNIDO Joint Division, on the basis of OECD, *Economic Outlook, Historical Statistics 1960-1985*.
^a1984.

Table 8

SOCIAL SECURITY EXPENDITURE AS A PERCENTAGE OF GDP

Country	1960	1975	1980	1985	Average				
					1960- 1967	1968- 1973	1974- 1979	1980- 1985	1960- 1985
United States	5.0	11.1	10.9	11.0	5.4	7.7	10.3	11.3	8.4
Japan	3.8	7.7	10.1	11.0	4.1	4.8	8.4	10.8	6.8
Federal Republic of Germany	12.0	17.6	16.5	16.1	12.4	13.2	26.7	16.8	14.6
France	13.5	20.4	23.2	26.4	15.5	17.2	21.0	25.4	19.4
United Kingdom	6.8	9.9	11.5	14.0 ^a	7.3	8.8	10.5	13.2 ^a	9.6
Italy	9.8	15.6	15.8	19.5	11.1	13.0	15.4	18.5	14.2

Source: ECLAC/UNIDO Joint Division, on the basis of OECD, *Economic Outlook, Historical Statistics 1960-1985*.
^a1984.

iii) Co-operative efforts in research and development and co-production between companies in the automotive sector of the United States, Japan and Europe.

iv) Co-operative research and development arrangements between semiconductor manufacturers in the United States, with emphasis on production engineering. Agreements of this kind have long been common in Japan, led by MITI; perhaps the most significant development has been the 20-year programme to tackle the "IBM challenge".

v) In the sectors most vulnerable to "fashion", there are arrangements under which competition at the model-exhibition stage coexists with co-operation at the production stage, once the market has determined the "winners".

In turn, the proliferation of co-operation arrangements among multinational corporations is due in part to the increasing cost of product and process development, and to the need to adapt to sudden shifts in exchange-rate parities. The multinationals seem to have realized that at the present time technological know-how and occupational skills are distributed fairly evenly among the industrialized countries; accordingly, any stage of the production process can be carried out in any place. They therefore find it convenient to build plants or sign agreements with companies in other countries of the various regions, a procedure which also helps to overcome any protectionist barriers.

6. The infrastructure of education, research and development

There is unanimous agreement that this aspect is a vital requirement and component of any industrial restructuring which incorporates suitable technological advances. This is the reason for the increase since the end of the 1970s in the volume of resources allocated to research and development in the industrialized countries, and for the awareness that it is essential to adapt the education system to the new requirements.

One interesting difference between the countries is the volume of research and development resources allocated to the military industry and the evaluation of its impact on competitiveness. The debate about the collateral effect of

these investments on the whole of the industrial sector is far from exhausted. Coexistence would seem possible, at least for specific periods, between low levels of activities having radically different challenges, processes, time-frames and organizational forms. In military matters priority is given to the determination of objectives and targets rather than time-frames, and economic constraints play an obviously smaller role. The possibility of long-term programming is very far from established in the industrial and trade world, where the main theme is flexibility and the capacity for rapid adaptation to the changing trends of international trade. Furthermore, competition is less intense and time-frames are longer in the military sphere. The replacement of successive generations of "products" and "differentiation" within each generation are not determined, unfortunately, by their actual performance in use. The military complex has the ability to attract the most outstanding scientific and technological talents, for it can provide them, in addition to high pay, with a secure and calm environment in which they are not under pressure to produce results in the short term.

This is why the group of developed countries which has channeled significant resources to the military has low levels of industrial competitiveness with respect to conventional products; the highly industrialized group of countries which allocates hardly any resources to defence leads the way in international industrial competitiveness in these products.

In the mid-1980s the manufacturing surplus of Japan, the Federal Republic and Italy, the three losers in the last world war, was close to US\$220 000 million. On the other hand, the three victorious Powers had a deficit of around US\$120 000 million, 75% of which belonged to the United States. In general terms, the countries which suffered military defeat in that war are fuelling the deficit both of the victorious countries and of the rest of the world, and primarily of the developing nations.

There is an uneven inverse relationship between the volume of expenditure on defence as part of GDP and the degree of international competitiveness, measured in terms of the size of the manufacturing surplus or deficit in relation to the manufacturing product (figure 1).

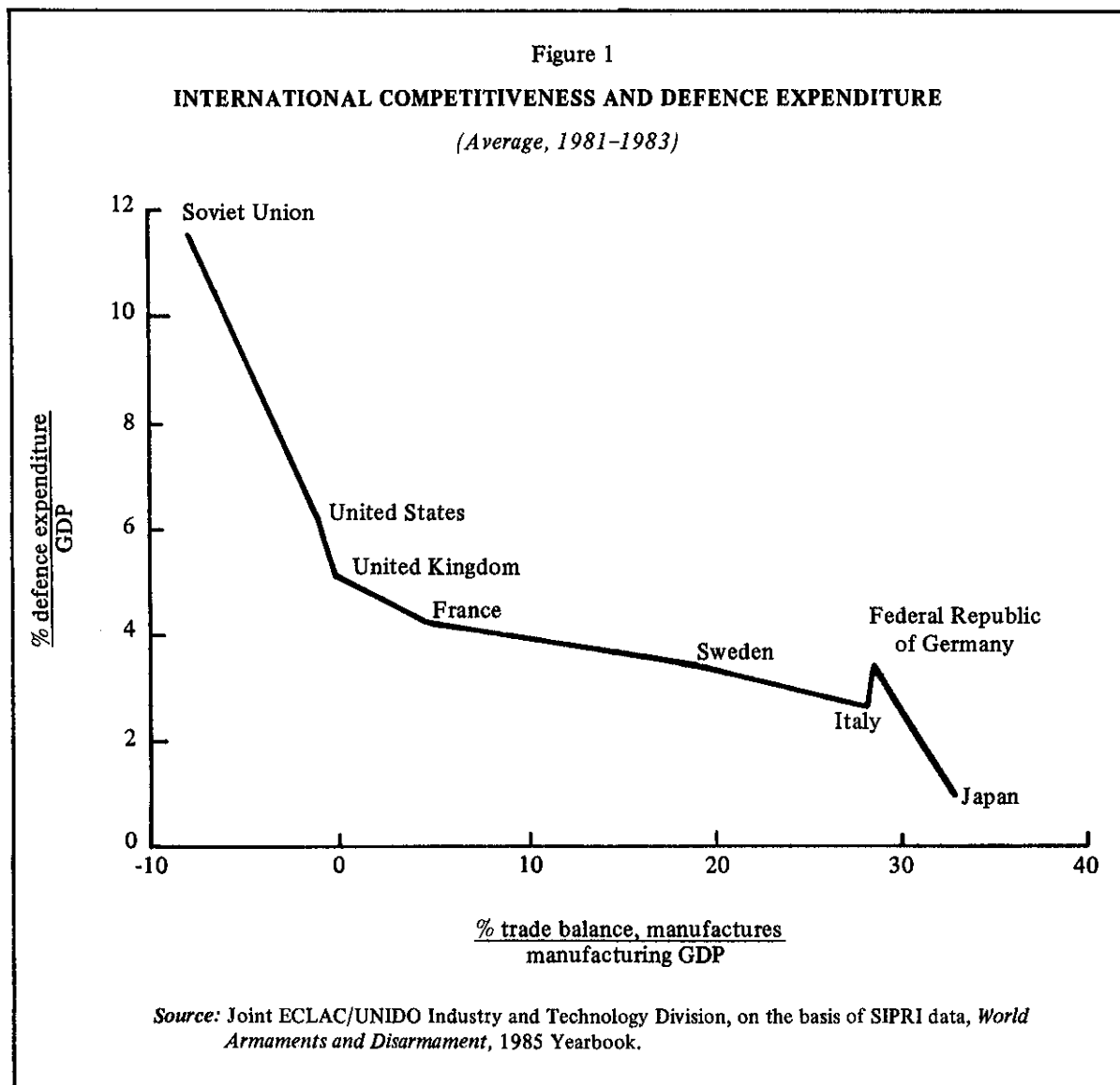
The Soviet Union and the United States are at one extreme and the Federal Republic and Japan are at the other, leaving the United Kingdom, France, Sweden and Italy in the middle. The multiplier effect of defence expenditure on international industrial competitiveness appears to be negative, despite what conventional wisdom says.

A disarmament agreement between the United States and the Soviet Union would free a large part of the resources used for military purposes. And if figure 1 describes the trend for each country correctly, these two countries will retrace the curve towards increased industrial competitiveness—a key factor in tackling their

respective external deficits. Such an agreement, therefore, would not only have a beneficial impact on the gloomy collective perception of mankind's future, but would also encourage the restoration of balances in trade and financial flows.

*7. The sectoral structure
and the incorporation of
technological advances*

There is a surprising positive correlation between lack of natural resources and level of competitiveness in the industrial sector. Those countries which lack the "easy" source of foreign



exchange offered by natural resources have no other alternative than to opt for the "building" of comparative advantages in the manufacturing sector. The experience of Japan, the Federal Republic and Italy is instructive in this respect. It contrasts with the experience of the United States, the Soviet Union and the United Kingdom, countries which are well endowed with natural resources or which ensured low-cost supplies from their colonies.

The Nordic countries are a special case combining a generous supply of natural resources and high competitiveness due to high levels of specialization in equipment and processes for the extraction, processing and finishing of such resources (agriculture, forestry, fisheries and energy, in the case of Norway). These are small countries for which specialization is a necessity and in which the "welfare State" coexists with an extremely open foreign-trade policy. Furthermore, they take the view that the quest for full employment does not necessarily undermine competitiveness, the maintenance of which is in turn a requirement for sustaining the levels of prosperity. The unemployment rate is maintained at around 3% in Sweden, Finland and Norway, whereas the average for Western Europe as a whole is about 10%.

Italy offers a special example of industrial restructuring, for it does not follow the prevailing model—based on the electronics and chemical axes—imposed by the United States, Japan, and the Federal Republic. In addition to making significant progress in these areas of intensive technology, Italy manages to maintain its international position by increasing its standards of excellence in sectors which, both from the "common sense" standpoint and from the academic standpoint—which rarely coincide—seemed condemned to be "losers" owing to the increasing competition from the Asian NICs (Piore and Sabel, 1983 and 1984). Accordingly, the textiles, clothing and footwear branches, which have been practically dismantled in the other industrialized countries, remain vigorous in Italy and achieve high productivity which enables them to consolidate their positions not only in the European Common Market but also in the United States (Piore and Sabel, 1983 and 1984; Ribeiro and others, 1987).

Small and medium-scale industry plays a more important quantitative role in Italy than in the other European countries considered here, in particular the Federal Republic, Sweden, the United Kingdom and France. Of greater significance is the average increase in this sector's productivity from the 1970s, a variable which in a fairly broad range of industrial groupings seems to resemble that of big business. This contradicts the conventional view that there are structural differences between the two sectors, i.e., insuperable differences, with respect to productivity, which are associated with economies of scale and technological rigidities. This phenomenon enabled Italy to achieve a very respectable position in areas such as textiles, clothing, footwear, wooden furniture and certain types of machinery—particularly for specific uses and notably for foodstuffs—in which economies of scale are not significant.

The modernization of traditional sectors, whose disappearance was supposed to be inevitable, and the large increase in productivity in small and medium-sized businesses in a broad range of sectors are features which invest the Italian example with particular importance with respect to the options available to the Latin American countries; this of course does not mean setting them up as paradigms.

Italy's dramatic restructuring in the past decade has been due only partially to the need to counteract the pressure from labour organizations, which take as their reference point the prevailing wage levels in the most capital-intensive sectors (automobiles, chemicals and iron and steel). Accordingly, the increased productivity is not only compatible with wage pressures but also, up to a point, caused by them. This is a concrete example of the approach which combines increased competitiveness with higher productivity and technological progress (Antonelli, 1987).

France, whose industrial growth during the period has been only slightly lower than that of the Federal Republic and Italy, is undergoing changes in its industrial production profile which also differ from the classic cases of the three biggest countries. The electrical machinery and electronics sector leads the way. At the same time other groupings, some of them making

intensive use of manpower, others of natural resources or capital goods —non-metallic minerals, iron and steel, non-ferrous minerals, metal products, textiles, leather and wood— are undergoing what has become called deindustrialization. The overall result is accelerated growth of manufacturing industries, intensive structural change, and specialization in electrical and electronic equipment —nuclear energy, aeronautics, railway equipment, telecommunications and armaments— a process which receives vigorous support from the use of the purchasing power of the public sector. (Boyer, 1983a and 1983b; Boyer and Mistral, 1983; Lodge and Vogel, 1987; Messine, 1984 and 1985; McCormick, 1987.)

8. The use of policy tools and the institutional dimension

In order to illustrate the importance of the different national approaches to the design and use of policy tools which affect the industrial sector, there now follows a brief comparative analysis of Japan and the United States.

Like the rest of the world, Japan takes as its reference point the consumption pattern prevailing in the United States. It does this for the fundamental purpose of producing the goods which that country demands, but on more favourable terms with respect to cost and quality. The United States has thus become the main target of Japan's production and export strategy. However, the Japanese have adopted a number of domestic safeguards to ensure that the spread of this model (in any event gradual) does not impede the attainment of Japan's fundamental growth targets. "Modernity" is reproduced but its rate of absorption is restrained, in order to keep it in line with the strategic objective of domestic growth and therefore of improved competitiveness.

Automobiles and housing play a crucial role, in both quantitative and qualitative terms, in the United States consumption pattern. It is no surprise that the importance of these items of personal consumption has been steadily increasing over time, in step with rising incomes. The Japanese authorities have been taking action to impede or delay the reproduction of this consumption pattern in their domestic market. For this purpose they use a policy designed systemat-

ically to restrain consumption and stimulate saving, with respect both to housing and to the purchase of consumer goods, mainly durables. Whereas in the United States interest on savings accounts is taxed and interest on consumer loans is exempt from tax, exactly the opposite is the case in Japan. With respect specifically to housing, United States lending institutions are able to offer a lower interest rate than the banking system, in addition to the fact that interest on home mortgages is exempt from tax, even in the case of the second or third family home. In Japan, housing loans are severely restricted, and people have to make a systematic and prolonged effort to save; until their savings reach the required amount, the funds are available for investment.

The saving habit is also encouraged by the method by which businesses pay their employees, which includes sizeable quarterly bonuses which can represent up to a quarter or a third of actual earnings. Furthermore, the pensions system is based on the contribution of a single large lump-sum, another factor which encourages the saving habit. The poor cover provided by the Japanese social-security system prompts families to set aside large sums for old age or health contingencies (McGraw, 1986). In addition, deposits to individual or family accounts can be made at all post offices. The willingness of the Japanese to save is not therefore due to cultural factors, at least not entirely. It is encouraged by mechanisms which guarantee that these savings are channeled into investment. The financial intermediation system, although privately owned, is regulated directly by the Bank of Japan and the Finance Ministry. They require specific percentages of available resources to be channeled to the sectors of high capital intensity, to which the country has decided to give priority. Until quite recently, the control system severely restricted the exit of capital from the country. In other words, the savings remained in Japan and were channeled, at least in specific proportions, to priority sectors. This policy has been applied under successive sectoral programmes whose main goal is to consolidate the virtuous circle of growth with competitiveness.

Factors which are completely absent from the experience of the United States play a significant role in the establishment of a highly com-

petitive industrial system in Japan. These include all the measures designed to promote the acquisition of foreign technology by means of co-operation between different companies and co-ordination of their efforts in accordance with the sectoral priorities established by MITI. The keystone of this strategy is the so-called "reverse engineering", which means the purchase of technologically advanced goods with a view to dismantling, reconstructing and improving them within the country.

In addition, and unlike the other advanced countries and the countries of Latin America, the Japanese authorities adopted an extraordinarily restrictive policy with respect to foreign investment and manufacturing activities, for they considered that the domestic market was the principal learning base for the country's industry. To hand it over to foreign companies would represent a serious threat to the capacity of domestic companies to acquire the necessary know-how and subsequently to invade external markets. Furthermore, the familiar Japanese policy of import controls encouraged domestic competition among Japanese companies, although within the framework of a captive market.

Another relevant factor is the sectoral component of fiscal policy, which dates from long ago in the case of Japan. Since the Meiji era, the public sector has performed with great realism the function not only of ensuring macroeconomic balances but also of allocating specific roles to specific areas—shipbuilding, railways, mining and silk textiles—to which priority had been assigned. This is fundamentally different from the concept of macroeconomic policy prevailing in the other industrialized countries. They, and particularly the United States, adhere to the principle of intersectoral neutrality, arguing that priorities must be determined by the market.

The priority which the Japanese State accords to the industrial sector also emerges clearly in taxation policy. Within the industrial sector, moreover, priority is given to the areas which demonstrate the highest level of technological change or the potential to boost the domestic or international market. In 1981 the taxes-sales ratio for all economic activities in Japan stood slightly higher than in the United

States (1.9% versus 1.1%). In the United States the taxes-sales coefficient in the chemical and heavy machinery industries was three times the overall ratio; in Japan, the respective coefficients were 1.5 and 1.8. In contrast, in the United States the financial sector bore a tax burden of 1.4%, while in Japan the figure was 2.3%. In other words, the overall tax rate was slightly higher in Japan, but significantly lower in areas of industry with a high technological content, and higher in the financial sector.

As a result, and without disparaging the cultural or religious factors, it can be asserted that everyday economic life is affected by factors which explain Japan's peculiar industrialization profile and much of its success in reconciling growth with equity. The frequent references to Confucius in explanation of the "success" of South-East Asia are hard to reconcile with the fact that until quite recently attempts were made to explain China's backwardness by alluding to that same personage.

Where equity is concerned, it is worth noting that the greatest advances were achieved during the occupation of Japanese territory by United States troops. During that period the power of the big conglomerates weakened and the ownership of agricultural land and big urban properties were redistributed (Mizoguchi, 1985).

It is interesting to note that these crucial differences between specific tools of economic policy have come about despite the fact that the relative size of Japan's public sector is similar to that of the United States. In both economies the importance of public expenditure and the role of public enterprises in industrial production are more modest than in any of the European industrialized countries, particularly the Federal Republic of Germany. This apparent institutional similarity conceals fundamental differences of approach in the use of public sector instruments. Moreover, the Japanese industrialization model has several elements in common with that of the Federal Republic. However, the relative weight of the public sector, both in the gross domestic product and in industrial sector companies, is considerably higher in the Federal Republic.

Aggregate volumes are therefore a very inadequate datum for the purposes of acquiring a better understanding of the role of the State in a

country's industrialization. The almost symbiotic relationship between the State and the big business groups in Japan renders unnecessary any larger direct presence of the public sector in production activities. The low quantitative importance of the Japanese State has little to do with the phenomenon, at first sight a similar one, observed in the United States economy, where there is virtually no interaction between the public and private sectors (Lodge and Vogel, 1987). In contrast, the relationship between the public sector, financial intermediation and the

industrial sector in the Federal Republic is much more like the Japanese situation, although the impact of the State on the economy is substantially smaller in the Asian giant (Zysman, 1984).

The public deficit has represented about 5% of the product in recent years both in the United States and in Japan. But, while in the United States the deficit is equivalent to total net private savings, in Japan the ratio is barely 35%. The weight of the public sector and the relative size of its deficit are therefore similar, but their effects are very different (McGraw, 1986).

IV

Competitiveness and post-Keynesian policies

It is clear from the foregoing that it is not only companies which compete in the international market. It is also a field of confrontation between production systems, institutional structures and social organs, in which business is an important element but one integrated in a network of relations with the education system, the technological infrastructure, management-labour relations, the public and private institutional apparatus, the financial system, etc.

In the industrialized countries the debate about improved competitiveness takes place within a framework of institutions whose legitimacy no one questions. Moreover, the level of social cohesion is fairly high. The consumption pattern and the stock of technological knowledge have been dispersed and homogenized. Their international engagement is based on the manufacturing sector.

In order to increase their competitiveness, the governments of these countries promote programmes to support the advanced technology sectors and adapt and invigorate the system of education, research and development, implementing preferential programmes to support small and medium-scale industry, creating favourable conditions for co-operation between companies and between companies and the pub-

lic sector, encouraging the reform of the system of industrial relations, and studying public investment programmes for improvement of the infrastructure, with emphasis on telecommunications. The business sector, in turn, explores new forms of organization and of association with the academic sector and with venture capital, and it tests various modalities of industrial relations, with a view to motivating the workers and encouraging their co-operation; businesses also develop the most varied forms of co-operation among themselves and with governments and regional groupings, especially in research and development.

We are thus witnessing the creation of strategies which can be described as post-Keynesian (Freeman, 1987). This phenomenon, which is far from exhaustion, coexists with a rhetoric and practice of an aggressive pre-Keynesian type. The institutional structure of the advanced countries—which guarantees the various social and political actors the right to participate actively in the defence of their positions—ensures that pre-Keynesian policies do not impede the rise of post-Keynesian ones.

In the light of our analysis, the most likely development is that the post-Keynesian strategy will shape the framework for economic developments in the coming decades.

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Industrial revolution, technological paradigm and regional alternatives

Hugo J. Nochteff*

An industrial revolution is taking place: its nucleus is the electronics complex, from which will emerge a new technological-economic paradigm and a new economic, social and cultural pattern which began to develop about 15 years ago and which will continue to unfold in the coming decades.

The appropriate use of the new technologies by the developing countries is made possible by the very trends of the diffusion of the new industrial technology model. In fact, the trends which have been called "intrinsic", trends towards the concentration of knowledge, control and economic and political power, strengthened by the technological protectionism of the big State and private organizations of the industrialized countries, are accompanied by the—equally necessary—diffusion trend of the new technologies, which is essential to the development of the new paradigm and the achievement of expanded reproduction. Technological knowledge is almost inevitably "liberated" in the course of the diffusion process.

However, given the characteristics of the new technologies, utilization of the possibilities offered by the "uncontrolled" diffusion process is more difficult than in the case of earlier technologies, and it depends increasingly on the scientific, technological and industrial capacity of the semi-industrialized countries. The development of this capacity and its direction are linked to the generation of "endogenous nuclei of technological dynamism" and, in general, of policies designed essentially for the creation of the capacity to adapt the use of the new technologies to the needs and potential of the semi-industrialized nations and their various social sectors.

This strategy can be described as "selective linking" and its central features are discussed in this article.

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I

Industrial revolution and technological paradigm

There is every indication that a new industrial revolution is taking place, with its nucleus or *key factor* located in the electronics complex, from which is emerging the now dominant economic-technological paradigm—an economic, social, cultural and technological pattern which began to be shaped about 15 years ago, is now rapidly consolidating itself, and will continue to unfold during the coming decades (Pérez, 1975; Forrester, 1980).

The industrial revolution has been defined in the recent literature as a profound transformation of the input-output matrix: not only are its internal ratios changing, but new lines and columns are being added as well. It has thus been defined as a radical and very long-term modification of the relative-price dynamics of all production inputs.

The nucleus of the structure of the new accumulation model is a technological-economic complex, in this case the electronics complex, which constitutes the *key factor* in the changes in the input-output matrix, in relative-cost dynamics, and in the determination of a new "best practice" frontier (Pérez, 1985 and 1986).

The development of the technological revolution is guided by a technological-economic paradigm (Dosi, 1982) which determines the main lines of the change in the new trajectories of invention, innovation and diffusion. This paradigm is consolidated in practice as a kind of "ideal type"—in normative rather than in methodological terms, for it should not be confused with Weber's ideal type—of economic organization, which spreads out until it forms the body of beliefs, values and techniques shared by technologists, investors, managers and political decision-makers.

This notion has been taken from the epistemology and history of science, specifically from the scientific paradigm of Thomas Kuhn (1985). Both in its content and in its development, the technological-economic paradigm shows a

marked resemblance to the one formulated by Kuhn. As in Kuhn, it emerges when the problems which come up in practice cannot be solved by means of further development of the application of the methods contained in the earlier paradigm and a very intense crisis results. This process includes the emergence of a new body of beliefs and practices and new key factors: the exemplars or models for problem-solving in the scientific paradigms (Borello, 1988). It promises success in the solution of the most important problems, achieved in what can be called the normal path, which takes the paradigm as matrix and trajectory of its development.

There is every indication that the phenomena described by these paradigms, and some of the trends predicted by their authors, have been empirically verified. In addition to analysing the theoretical validity of the concept of technological-economic paradigm, it is important to emphasize two of its features, owing to their significance for the peripheral countries.

First, the importance of the problems, and therefore the central issues which the new paradigm promises to resolve, is not determined by the issues which can be called universal necessities. What counts for more is the perception of these problems by the leading social actors, in the light of the earlier paradigm and the social structure in which they exercise their leadership. Second, the normal path tends to disregard *a priori* any invention, innovation, production practice or modification of consumption and investment patterns which are not given priority by the paradigm, or—in other words—which are not relevant to the solution of the problems considered most important or central. The normal path follows the models of accepted trajectories, within which take place the processes of innovation and diffusion, and from which is disseminated and confirmed the new common outlook of managers, investors, technologists, policy-makers, scientific institutes, etc.

II

The new paradigm, the big organizations of the central countries, and the semi-industrialized countries

This industrial revolution, this new *key factor* and this new technological-economic paradigm constitute the basis of the response of the big State and private organizations of the most advanced countries to the crisis which began at the end of the 1960s. This crisis was caused to a large extent by the exhaustion of the capacity of the earlier technological-economic paradigm to ensure a dynamic process of capital accumulation and, therefore, of expanded reproduction of organization capitalism. In other words, the industrial technology model of the post-war period is no longer able to guarantee the economic and political growth of the big organizations of the most highly industrialized countries (Nochteff, 1987).

The new paradigm is therefore a "product" of the big organizations which have generated

and consolidated it, and its potential responds functionally to their requirements for economic and political growth.

The crisis which shook the post-war technological-economic paradigm, during which this new industrial revolution and its *key factor* came into being, seems to have stemmed from the inability of technology to overcome the constraints imposed, on one hand, by the diminishing supply and, on the other, by the increasing cost of raw materials, energy and labour as inputs in the accumulation process. In turn, the specific structure and dynamics of the demand for these inputs was largely determined by the production, consumption and investment patterns of the central economies, and by the specific characteristics of the prevailing processes of production, trade and economic

organization —determined to a large extent by those of the big organizations of the central countries.

The potential of the electronics complex, and basically of micro-electronics, which is making it the *key factor* of the new technological paradigm, is closely associated with its specific capacity to remove or offer a promise to remove such constraints, in the terms used in this article, in order to bring about a profound change in the relative-price dynamics of all the inputs of the production process and the organizational system.¹

This new industrial revolution causes an increase in society's freedom with respect to natural determinants. It invests the process of capital accumulation with greater independence with respect to the constraints imposed by nature in general and the labour force in particular. However, the new quantum of freedom which society is acquiring tends to be distributed unequally. Given the causes of this industrial revolution and the social actors which generate, lead and develop it, it is mainly the big organizations of the advanced countries which acquire this independence. In other words, the unequal distribution of the fruits of technological progress is directly associated with the fact that the social matrix, headed by the big organizations of the central countries, establishes the structure of the technological-economic paradigm and the normal path of its development. The capacity of the new paradigm to solve the problems of the societies and organizations which generated it does not mean that it has to solve the problems of other societies.

As suggested earlier, this trend is determined by what can be called the exclusion effect of the paradigm and its normal path. The normal path in its positive (or inclusive) effect, tends to accumulate knowledge and solutions, but only for handling the problems which the paradigm defines as such. The normal path creates a consensus as to what is the best production and organizational practice, what are the inputs whose prices should continue to fall, or

what is the desirable dynamics of the consumption and investment patterns. It tends to exclude, to the same extent but not rigidly, the exploration of technological, industrial and organizational trajectories which contradict or are secondary to the paradigm, or which have simply not been taken into account among the central problems and the solution options, given the objectives, the leading actors and the constraints on the accumulation model which caused the change of paradigm.

These trends, which can be called "intrinsic" in, although not essential to, the new industrial revolution, seem in fact to be harmful, at least in relative terms, to the peripheral societies and to semi-industrialized societies in general, this latter category including Latin America.

The effects of the development of the new industrial technology complexes, especially electronics, on the semi-industrialized countries can be described in different ways —where it has already been possible to make evaluations— and they have dissimilar economic, social and political manifestations. Nevertheless, most of the studies of these effects emphasize:²

— The loss of the independent capacity to determine the patterns of production, consumption and income distribution;

— The transfer of the processes of gestation, acquisition and development of new knowledge overseas to the big organizations of central countries;

— The widening income gap between the most advanced and the semi-industrialized countries resulting from their different capacity for capital accumulation and economic development, which stems mainly from the importance of science and technology, concentrated in the most advanced countries, as inputs in the production process;

— The decline of the labour market, with the disappearance of the specialized and best-paid occupations (skilled workers and techni-

¹A discussion of the relationship between the constraints, the characteristics of organization capitalism and the potential of micro-electronics will be found in Nochteff (1987).

²This list is a summary and simplification of the effects discussed in the literature on this topic. Among this literature, reference may be made to such works as: Minian (1986), Ernst (1984), Antonelli (1981), Hoffman and Rush (1980), Leppan (1983), Kaplinsky (1985), Rada (1980a and 1980b), Seers (1984), UNCTC (1984) and Ernst (1980).

cians; and in some countries scientists and technologists as well);

— The concentration of economic power in transnational corporations;

— The exacerbation of the structural trends towards disequilibrium in the external sector of the economy;

— The trend towards the transformation of the industrial technology system into a set of "enclaves" whose activities bear little relationship to the needs and characteristics of the peripheral societies but are instead increasingly controlled by transnational corporations;

— The location of activities of declining value added in the semi-industrialized countries;

— Exogenous decision-making concerning the restructuring of activities, with respect both to technology and production and to the growth process;

— The increasing inequality of income distribution.

These phenomena are no strangers to the region's economies. On the contrary, they have been features of the Latin American societies at least since the end of the Second World War (Fajnzylber, 1985). The so-called intrinsic "trends" of this industrial revolution are therefore creating new problems for the region, but they are also, and more importantly, exacerbating the existing ones.

III

Conditions and proposals for an alternative strategy

However, these intrinsic trends should not be regarded as inevitable and necessary laws. The Latin American societies and the various social actors can jointly determine the way in which this industrial revolution will affect them, if indeed they actively influence the methods by which the new technologies are incorporated, adapting and developing them in the light of their own needs and their economic, social and political potential.

The appropriate use of the new technologies is made possible by the very characteristics of the diffusion of the new industrial technology models. In fact, the so-called "intrinsic" trends towards the concentration of knowledge, control and economic and political power, strengthened by the technological protectionism of the big State and private organizations of the advanced countries, are accompanied by —equally necessary— trends towards the development of a new paradigm and attainment of expanded reproduction and towards the diffusion of the new technologies. Technological knowledge is almost inevitably "liberated" during this diffusion process. This phenomenon takes place in various ways which do not need to be listed and

discussed in detail here. The sale of micro-electronic components not installed in equipment results from the need to achieve increasing economies of scale and absorb the cost of research and development and of capital, the proliferation of "silicon chips", the speed with which "clones" are developed and forced and accelerated obsolescence are some of the manifestations of this process of "uncontrolled" diffusion.

However, given the characteristics of the new technologies, it is more difficult to take advantage of the opportunities offered by the process of "uncontrolled" diffusion than in the case of the earlier technologies, and this depends increasingly on the scientific, technological and industrial capacity of the semi-industrialized countries.

In terms of the normal path of the new paradigm, this capacity is essential to the utilization of radical innovations and the adoption of innovation, dissemination and development policies which can solve problems different from the ones given priority by the central countries. The generation of scientific and technological know-how in Latin America is therefore neces-

sary for two reasons: first, to take proper advantage of the products of the normal path of the new paradigm; second, to offset what we have called here the exclusion effect of the normal path. This latter task implies to some extent the creation of a partial alternative paradigm, for it will require the identification of central problems different from the ones defined as such in the dominant technological-economic paradigm.

The development of this capacity and its direction are connected with the generation of so-called "endogenous nuclei of technological dynamism" (ECLAC-UNIDO, 1985) and, in general, with the design of policies whose main goal is the creation of the capacity to use the new technologies to satisfy the needs and potential of the semi-industrialized nations and their various social sectors. This is the meaning of the word "endogenous" and, at the same time, the basis of its importance. In short, it is a question of generating capacities which cater to the needs which each society and each social sector regards as pertinent and urgent, and of taking advantage of the dissemination of the new paradigm to utilize these capacities and satisfy these needs. This means that the application of the concepts of efficacy—defined as the means of achieving ends—and of efficiency—defined as the means of achieving the ends with the lowest expenditure of resources—is linked to those ends, which can be determined only by the social actors themselves. This means therefore that the goals of the introduction of new technology and the development of the economy and industry, and the most efficacious and efficient means of achieving these goals, cannot be determined by the big organizations or by reference to the "state of the art" as defined by the most advanced countries. In other words, if it is held that the modernization of the production apparatus and technological development consist of something distinct from "window-dressing modernization" and the mere transmission of exogenous stimuli, then this modernization must be closely associated with the democratization of scientific, technological and production decision-making.

Political and social issues, and indeed the distribution of freedom and power among social actors, are therefore inseparable from the technological-economic models. If the incorporation of these models takes place without prior

democratic debate or without regard to the goals of the social actors, this will in fact confirm the technological determinism which characterizes, with varying degrees of explicitness, much of the recent literature on these topics. It is therefore vitally important to stress that this determinism is merely an ideological expression of the actual determination, by the big organizations of the most advanced countries, both of the social ends and of the means of achieving them.

The identification of priority problems for Latin America and the satisfaction of the needs of the majority of its population, the creation of scientific capacities for an alternative paradigm and normal path, and the creation of endogenous nuclei of technological dynamism also imply alternative types of engagement with the centres. In general terms, it implies a strategy of selective linking to the world market and the big organizations of the central countries, for the dominant paradigm is disseminated and consolidated through consumption and investment patterns, foreign trade, new notions of best practice and the common outlook of investors, technologists, managers and political decision-makers. To the extent that exogenous factors and the exogenously determined incorporation of the dominant paradigm produce negative effects and lead to the reproduction of an unsuitable, imitative, truncated and socially exclusive accumulation model, selectivity in the linking of the Latin American economies to the central countries becomes a decisive factor in the economic and social development strategy.

Some of the main lines of a strategy of selective linking are listed in the following paragraphs:³

— Development of technological and production capacities which facilitate the increasing use of new technologies and the selection of technologies, goods and production options most suited to the economic, social and political

³The background of the concept of selective linking may be found in the works on *Selective Disengagement* by Ward Morehouse, especially (1979); and on *Decoupling Policy* by Juan Rada, especially (1982). For a discussion of the problems of the exogenously determined incorporation of technology in Latin America, see the works by Eugenio Lahera and Hugo Nochteff which take up the notion of "selective endogenization", especially (1982).

development of each society, it being understood that "suitable" means those which respond most efficiently to the needs of the various social actors, but primarily to the priority needs of the majority of the population;

— Where demand is concerned, definition of the most efficient consumption pattern in terms of the needs, and therefore of the democratically determined social goals, rather than by reference to the dominant pattern in other societies or in the international market or to the standard patterns explicit or implicit in the models produced in the big organizations, including the scientific organizations, of the advanced countries;

— Where supply is concerned, determination of the most efficient industrial technology pattern with respect to the demand pattern referred to above, the potential of each society, and the preferences of the majority of the economically active population as to working conditions, types of job qualification and the control and characteristics of the work process in general;

— Identification, in the light of the above, of the most suitable technologies available in the international market with a view to copying, adapting or developing them, and determination of the forms of incorporation and engagement in the international market in the light of the concepts of suitability and efficiency described earlier;

— At the same time, introduction of a policy of co-operation and complementarity with respect to technology, production and foreign trade between societies which have similar or complementary needs and potentials and which are endeavouring to develop strategies of the same kind and with similar goals. It must be stressed that in the form in which it is usually presented and in which it has been experienced by some countries of the region, the model of external openness is an ideological one. A strategy of selective linking is not a "pass key"; the degree of an economy's liberalization in foreign trade —understood strictly as the foreign-trade coefficient— can be smaller or much larger than the level produced by the liberalization model. But the content of the trade flows is different, just as the societies of the trading partners are

different. A selective linking model, based on increasing technological and industrial integration, can also generate export flows of increasing added value. In view of the effect of the control of the consumption pattern and the integration of the production network, together with the kind of exports mentioned above, the model will have a positive effect on the external sector;

— Design of a science and technology policy in which the concepts of technological gaps and obsolescence refer primarily to the needs of each individual society, to its capacities and to its democratically established social goals, and not to the technologies and areas of research prevailing in the most advanced countries or in the international market;

— Tendency, with respect to the technologies and goods regarded as of greatest importance from the social standpoint and from the standpoint of the country's technological and industrial development, for the domestic product cycle to adjust to the needs and possibilities of the national economy rather than to the logic of the domestic markets of advanced countries or to the logic of the trade between those countries;

— Adoption of product-quality criteria which, in addition to upgrading quality requirements, give priority to the products' useful life and ease of maintenance, and to the suitability of the benefits they deliver (or their technical specifications) in terms of the country's resources, rather than to the quantity and novelty of the products or their similarity to the products offered in the most advanced countries;

— Introduction and development of new technologies, primarily in order to satisfy the people's basic needs and to bring consumption and investment patterns into line with the requirements and potential of the Latin American countries. This control of patterns must be accompanied by improved productivity and competitiveness, in order to prevent the continuation of the structural bias towards deficits in the external sector.

The reconciliation of objectives requires the introduction of new technologies to satisfy basic needs through increasing productivity. This must also be achieved in the sectors of "non-tradeable" goods and services in order indirectly to reduce the costs of the sectors of "tradeable"

goods and services. This reconciliation also requires an increment, by means of technological and organizational change, in the productivity of the sectors which, in each case, are less engaged in the international market and therefore less exposed to external competition, and an increment in the competitiveness of the sectors, product lines or market sectors which are less engaged in foreign trade, especially those in which the aim is to achieve a higher export coefficient.⁴ All this implies, of course, the development of the capacity for creation and efficient use of technology. The Latin American experience indicates that the massive and indiscriminate incorporation of new "pioneering" technologies and plants has led to reduced efficiency in many cases, especially in services, to the detriment of the competitiveness of "tradeable" goods.

— Diffusion, from the endogenous nuclei of technological dynamism, of the most efficient and suitable methods of incorporating new technologies. The internationalization of technological know-how makes it possible to keep down the cost of new plant, use it in the most efficient manner and incorporate it within a framework of suitable organizational changes. The efficient incorporation of new technologies depends directly on technological capacity and independence. This fact, together with increased efficiency in the incorporation of new plant within a framework of simultaneous, or even prior, organizational changes is demonstrated both at the microeconomic level and throughout the whole economy, not only in the region but also in more advanced countries.

The foregoing considerations are some of the elements of a selective strategy which seeks to ensure that the determination of the patterns of consumption, supply and technological and industrial development is consistent not only

with exogenously generated trends but also, and to the greatest extent possible, with endogenous needs and goals.

Of course, it is an essential requirement for the design and introduction of a strategy of this kind that the design and introduction of the scientific, technological and industrial policies should be determined and controlled in a democratic manner by means of the directest possible participation by all the social actors, but especially by the majority of the population, in the decision-making and control machinery.

One of the necessary conditions of the viability of this democratization process is a public debate, in the widest sense of the term, about the matters which have been discussed in this article. A fundamental element in this debate, on which the degree of freedom of the social actors depends to a large extent, is the adoption of a critical attitude towards the issues raised by this new industrial revolution and by science and technology in general. In other words, criticism must be a central element of education, especially in technological subjects. It appears increasingly necessary to "unlearn" what is taught through the innumerable media, not only the mass media, which range from direct sales brochures and advertisements to the fairly complicated literature of diffusion concerning the intrinsic virtues of the new technologies.

Latin America's historical neglect of scientific and technological issues, and of the information, or rather, disinformation which is disseminated on a mass scale, tends to create an uncritical attitude to matters of technological change. This is reflected at very different levels, ranging from State decisions on matters involving technological change to the continuing lack of interest on the part of most of the population in discussion of scientific and technological decisions and in demanding participation in them.

⁴Industrial efficiency and international competitiveness are not perfect synonyms. In addition to issues of market conformation, it must be remembered that in the case of most manufactured goods competitiveness entails not only industrial efficiency but also requirements of design, delivery, packaging, etc., associated with the differentiation of products. On the other hand, lack of

competitiveness in the international market does not necessarily imply low productivity. In other words, it is possible to produce goods and services which are uncompetitive internationally (in terms of design, performance, etc.) but which are nevertheless very efficient.

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Technical change and productive restructuring

*Eugenio Labera**

This article analyses the direct and indirect impact of new technologies on the Latin American economy, and in particular the way in which such technologies can become a factor capable of easing the present situation. Of particular interest is the contribution made by technical change to the increase in international competitiveness and to the necessary restructuring of national economies.

The influence of technical change on developing countries is somewhat ambiguous, since it potentially includes both positive and negative aspects. One independent variable that may help to make the difference between these two kinds of result consists in the policies applied in each country.

In the text we analyse various approaches to the design of these policies, arriving at the conclusion that a prerequisite for their viability is their integration into overall economic options.

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"But things get darker as we move to ask them"
John Ashberry, *The Grapevine*

Introduction

Even though the first patent offices in the region were created towards the end of the nineteenth century —the patent office in Guatemala City has just celebrated its one-hundredth anniversary— there is in Latin America a marked dissatisfaction with the handling of technological problems. The following discussion, which includes elements that are clearly subjective, is intended to make a modest contribution to the debate on the subject, a thankless task because it requires the consideration of questions highly diverse in scope, some of them of the most fundamental kind, inasmuch as technology is interwoven with a very broad range of social relationships.

The article consists of four sections. In the first section we consider the types of technological change that are represented by the new technologies and the principal characteristics of each. The second section contains an analysis of some of the consequences these innovations produce in the international economy. Next we shall study technical progress as one of the factors offering a way out of the present regional crisis. Lastly, in the fourth section we formulate some lines of policy. The work is supplemented by a basic bibliography on the impact of new technologies.

I

What is the problem?: technical change or Industrial Revolution

1. *The "emerging technological paradigm"*

It has been said that we are now witnessing the exhaustion of a long Kondratiev wave and the development of a new Industrial Revolution, although the question whether it is the second or a later Industrial Revolution is in dispute. It

appears that we are facing not so much a series of technological changes as a new technical and economic paradigm. This paradigm, it is claimed, relates all of these changes to a fundamental transformation: the central role played by data processing and the development of the electronic complex.

This globalizing vision has unquestionable merit, since it enables us to capture in a single concept the dynamism and the direction of technological change. However, it puts too much emphasis on the continuities that characterize the present process, and this fact is translated into the vision of an integrated "package", which may seem accessible as a single entity to the developing countries; furthermore, its comprehensive nature makes it difficult to analyse it for operational and policy purposes.

In reality "technology" is an abstraction which covers a collection of techniques, methods and skills related to the way to attain specific objectives. It includes such diverse elements as data processing, medical practices, analytical techniques based on mathematics, the synthesis of engineering and design, algorithms for the solution of problems, computer programmes and the systems associated with them, and the application of new scientific discoveries to the economical production of goods and services. It is not easy to make accurate generalizations about such a broad collection of items.

2. Brief summary of the principal technological innovations and their development

In what follows, we present a relatively arbitrary grouping of the main technological developments of the recent past.

Electronics. Technologies based on microelectronics relate fundamentally to the production, processing, transmission and storage of information by electronic means. Microelectronics actually consists of four major groups which are interrelated: the first group includes basic technologies (microelectronics and optoelectronics), whose most immediate scientific roots are found in electronics, optics and electromagnetism; the second includes the field of information science, or the technologies relating to computation; the third group is that of telecom-

munications, which deals with the transmission of images, sounds and data by various means; and the fourth group consists of instrumentation, especially instrumentation for measurement and control. The boundaries between the last three groups are tending to disappear because of the advances made in basic technologies.

New materials. This group consists chiefly of light materials, high-temperature materials and materials for electronic components. They may be metals, treated to make them harder and to attain various configurations and concentrations; ceramic and inorganic materials; polymers; composite materials, prominent among which are those reinforced with fibres; and silicon, a key input for information sciences.

Biotechnology. This consists in the utilization of living micro-organisms (yeasts, fungi and bacteria), as well as animals, plants and cellular components for the conversion, synthesis, decomposition and concentration of specific substances. DNA recombination technology implies the direct manipulation of genetic material by selecting the desired gene and chemically bonding it to the DNA of a recipient, with a view to introducing the resultant hybrid into a cell capable of reproduction and protein synthesis.

New sources of energy. These are solar, wind, ocean, geothermal, bituminous-shale, biomass and thermochemical energy. There are also new developments in nuclear energy.

Other technologies. Some others are the result of applications of the above-mentioned generic technologies to specific spheres, such as changes in the handling of sea-going ships and remote sensing by means of satellites.

3. Principal characteristics of technical innovations

These technologies, generated principally in industrialized countries which have a high degree of social organization, have helped to increase productivity and competitiveness in general: the manner in which they do this depends on the country's scientific resources, the characteristics of its economy—including the natural resources it possesses—and the specific problems confronted by that economy. These technologies, endowed with a growing scientific

base, produce savings in manpower, natural inputs and energy, highlighting their systemic character in contrast with the separate existence of artifacts and machines. Their creation and development have been produced, to a decisive extent, by the support and financing they obtained from the State. This is so because the risk associated with technological innovation, especially its financial cost, has increased dangerously.

There exist specific sectors which are privileged carriers of technical change. They are to be found with absolute preference in the industrial sector (Fajnzylber, 1987). Technologies relating to information, for their part, have tended to take the flow of information as the centre of the production process. They have accelerated the process of direct incorporation of knowledge into capital equipment, which has a strong influence on the participation of human labour in the production process (Nochteff, 1987).

New technologies create more leisure time, that is to say, time not devoted to the mere reproduction of life. This creates the challenge of satisfactorily filling such time and raises the problem of the distribution of the fruits of leisure time, which are adapted in a differentiated manner, as pointed out by Prebisch and Pinto.¹ In the particular case of the genetic manipulation of living organisms, technology raises questions which go beyond the technical and economic field.

Considered from a different point of view, for the first time in history it is becoming technically feasible to ensure the material future of mankind—within the present limits of social life—through the hypothetical extensive application of current technological knowledge. Paradoxically, this also makes it possible to bring about the total destruction of life on our planet.

II

Some consequences for the international economy

1. *Impact on the economies of the industrialized countries*

The versatility and flexibility of microelectronics is breaking down the sectoral barriers to entry, altering the prevailing views about economies of scale and generating a great many possibilities for particular applications to new products and systems, including application by marginal variations oriented towards the differentiation of the product (Lahera and Nochteff, 1983).

"Optimal practice" in production will be modified by the increases in productivity, the savings in material inputs, the reduced share represented by labour costs in total costs, and a certain reduction in the importance of economies of scale. These changes affect policies concerning research and development policies and concerning employment, as does the geographical location of plants, among other factors.

From another point of view, the demand for labour is also undergoing changes. A separation

tends to arise between increases in productivity and increases in employment, and relatively high rates of structural unemployment are being reached, which is causing an unprecedented social problem. Parallel with this, there is a polarization of the skills required.

While the share represented by direct labour costs is decreasing, there is an increase in the share represented by costs associated with research and development. To the increased financial costs is added the need for greater research and development capacity in order to strengthen the relative power of the principal productive organizations, so that we observe a relative "dematerialization" of production in terms of costs.

There is an accelerated increase in productivity and capital-intensiveness within the service sector, which has recently undergone a

¹Concerning Prebisch's views, see Gurrieri (1981); concerning those of Anibal Pinto, see Pinto (1965).

technological transformation equivalent to what the first Industrial Revolution meant for manufacturing activities.

The consequences outlined above are operating as a process in time, without completely changing a factor or branch of activity simultaneously in the same direction. We are dealing with changes which follow the logic of flow, not the logic of a change in stockpiles (Nochteff, 1987).

2. Effects on the international economy

a) Trade

Under some circumstances technological advances may create trade, while under others they may destroy it. The substantial increase in the information sent beyond national frontiers will, at least in part, compensate for the flow of goods. As Latin American countries gradually approach the conditions of supply and demand in the industrialized countries, they will also come closer to the innovations they generate, and therefore we must suppose that trade resulting from technological differences will decrease. On the other hand, in an environment characterized by low growth rates, the orientation of technology will be based more on shortening the cycle and differentiating the product, and less on expanding the demand. Lastly, the increased flow of information will make it easier for non-traditional exporters to participate in international trade. Transactions in services will continue to grow in importance (Vernon, 1983).

b) Direct foreign investment

The process of internationalization of the production process is affected, among other variables, by technical innovations. There are alterations in comparative advantages and in the optimal organization of production. Both factors

may accentuate the orientation of direct foreign investment towards industrialized countries. At the same time, the persistence or expansion of the technological gap acts as a stimulus for such investment, both for investment from industrialized countries and for investment originating in the developing world. The successive sectoral restructurings—whether total or partial—will redefine the differences between the resources possessed by different enterprises, the point of departure for the dynamics of direct investment in foreign countries. The modalities of internationalization will also be affected, with a probable increase in vertical integration.

c) Financing

“Electronic money” and national and international transactions carried out by means of computers are accentuating the volatility of financial flows, causing a decrease in the scope of currency-exchange policies and financial policies. According to some sources, currency and securities operations across national frontiers exceed US\$2 trillion daily.

d) Culture

The omnipresence of telecommunications and the similarity of the content originating in the principal industrialized countries tend to overcome local preferences and traditions. This homogenization is a response to and also a prerequisite for the dissemination of certain goods, and services, which satisfy needs or preferences, even though there may often be reason to question the social desirability of the way in which these things are being done. What seems difficult is to have the best of both worlds. The demonstration effect of consumption becomes magnified, and exclusion from access to the new goods and services is regarded as a deterioration in the quality of life.

III

Technical progress as one of the factors offering a way out of the present regional crisis

1. *Technology and crisis*

Earlier generations of Latin American leaders often hastened to embrace the "Protestant ethic" and, as a result, became privileged and precocious students of "consumer hedonism", in the words of Daniel Bell (1977). For several decades this was facilitated by selective access to political decisions and by the fact that the masses of the rest of the people resigned themselves to the existing order of things; the permanence of these factors has ceased to be viable in a system in which information is available to everyone and which tends to break down personalized links to moral and economic authorities. A model which does not grow fast enough and nevertheless guarantees high profits to a small number of people is politically not viable as a democracy: it must use force to maintain itself.

Growth that is devoid of creativity and is limited to basic exports can function only if it is hooked to a locomotive of the international economy which is moving forward rapidly and which has a dynamic demand for basic commodities. When this circle is cut, then perhaps a door can be opened for creativity.

The crisis in the foreign-financing sector did not create the present crisis in the incorporation of technology into the regional economy; it only weakened this process even further. In fact, a relative looseness in the balance of payments has recently made possible the massive import of computer elements, which was translated in many cases into the extensive utilization of computers as high-priced typewriters or overgrown calculators for payroll accounts. Technology provides a way out, but rigorous prerequisites, both economic and non-economic, must be satisfied for its proper utilization. There must be time and capital formation, but there must also be policies which define precise objectives and there must be the design of effective instruments for attaining those objectives. Technological policy should form part of an overall strategy of positive adjustment.

In the same way as this has occurred and is occurring in other parts of the world, technical change and the consequent increase in productivity and international competitiveness offer a way out of Latin America's present crisis. The magnitude of what is possible is now approaching the magnitude of what is necessary, although, as always, this relationship depends on the social framework in which it is situated. The crisis represents an opportunity for improvement but also a chance of falling further behind.

A realistic political project with strong citizen support could use what exists today as a basis for advancing into the future. As has been pointed out, public administrations have no better social objective than economic growth. Hence, even though technology has need of politics, politics also has need of technology.

Technology, growth and democracy are, therefore, related terms. Democratization without productive transformation is not viable since its economic limits are very quickly reached. At that point there arises the risk that the economic policies of democracy will be no different from those used by authoritarianism. There is no conclusive foundation for asserting that there must be a "selective affinity" between authoritarian political organization and competitive participation in the international economy, as there is between democratic political organization and equitable development. Authoritarian organization does not guarantee development, a fact shown by many experiences; when it does promote development, it tends to shape an inequitable kind of growth. Democratic political organization is a necessary but not sufficient condition for equitable economic development, which in turn, reinforces democratization. The attainment of this vision requires overcoming an unfocused collective imagination and politicians who frequently have no imagination at all.

The concept of technological problems as a self-contained subject often prompts people to make partial diagnoses and predictions. Technological innovation, incorporation and adaptation

form part of a country's economic and social dynamism, which defines its potential and its limits.

Technology is not something that is added to other things on one side or another. It is a relationship which implies minimum conditions of acceptability. Quite often it is not even an artifact, nor can it be purchased separately.

2. Ambiguity of the technological impact on the region

While there are some who believe that technological innovations will tend to keep widening the gap between the industrialized and the developing countries, others postulate that this gap actually constitutes an opportunity. For example, Gerschenkron (1962) pointed out that the technology acquired by the less developed countries affords them an opportunity to grow more rapidly and avoid some of the mistakes made by the societies that had to travel the whole distance on their own. This presupposes a sudden awakening to the world of technology.

From another point of view, the question arises: is it possible to institute whatever policy one wishes, in any society and at any time? Obviously it is not. The relevant question, then, is: can we make our lives more modern when there are archaic hangovers which are still powerful? In reality this question is not new in Latin America, one of whose fundamental features is structural heterogeneity.

Technology should enable people to deal successfully with the challenges posed both by international trade and by the domestic markets of the region, including the task of meeting people's basic needs. The two questions are related, but they are not the same. Any analysis—especially a political one—must take account of the natural differences between the two markets, as well as between the types of technological solutions required. However, there is no contradiction in making an effort to advance on both of these fronts at the same time.

The probable effects of the incorporation of technical change are, with few exceptions, chiefly ambiguous, with high positive and negative potential at the same time, in view of the difficulty of identifying the technological, economic and social factors that bring it about.

Prominent among the latter are the policies which the countries of the region themselves adopt, even though these do not constitute an independent variable of unlimited power.

There is no way to "normalize" a regional, sectoral or regional/sectoral average. Consequently the comments given below are in fact merely well-intentioned generalities. There are circumstances which modify the impact of the new technologies with regard to the availability of resources, public policies, institutional rigidity and the roles played by the various factors.

a) Entry into the international economy

The disparity between the developed countries and the countries of Latin America with regard to the rate at which they introduce innovations and to the capacity to adapt them to national economies may increase the differences in productivity which separate them at present. If a sudden technological and production gap between the two groups were to appear, the developing countries would have to make desperate efforts merely to keep from falling further behind (Lahera and Nochteff, 1983). It is also possible that differentiation within the region will be intensified.

Technology may have a considerable effect on comparative advantages, reducing the importance of those which are based on low labour costs and accentuating those deriving from greater scientific and technological development. At the same time, a careful selection of products and technologies may contribute to the creation of dynamic comparative advantages. Here it seems important to consider the high elasticity towards protectionism of goods successfully exported to the industrialized countries. Account should also be taken of the world-wide tendency towards the proliferation of niches in the most diverse markets.

The cost of the new productive systems and the reduction of the coefficient of imports will increase the contribution of capital goods to imports, which will also be pressured by the spreading demand for certain products or inputs. At the same time, exports of basic commodities will make themselves felt, inasmuch as the growth of manufactured products will probably be slower, differentiated and concentrated.

Various metals and materials may undergo significant shifts in the coming years. Estimates of the consumption of metals in the coming decades indicate relatively moderate, although positive, rates for iron, copper, tin and lead. The rates for aluminium, chromium, nickel and the metals used in the manufacture of special steels will be somewhat higher. Lastly, other metals and materials, closely related to state-of-the-art technologies —columbium, titanium and gallium— will be imported at accelerated rates. The fact that some producers among the developing countries lack some of these new materials will put them at a disadvantage.

For Latin America the most problematical result that could come from technical change in the regular transport of goods by sea-going ships is their possible marginalization, or —which is the same thing— the relative increase in the cost of maritime transport, with its consequent effect on foreign trade, competitiveness and current accounts (ECLAC, 1987).

As a result of the recent wave of high oil prices, a series of technological advances relating to new sources of energy came into play. If necessary, these could become competitive with oil if the price of oil increases further. This would have a significant effect on the balance of foreign currencies, in both the oil-exporting and the oil-importing countries.

The possible negative effects of biotechnology on the region's agriculture are beyond question. They include such factors as the widening gap in competitiveness with industrialized countries and the intensified competition faced by natural products, such as sugar, when confronted with products that include a component of technological manipulation.

The increase in agricultural yields in the industrialized countries will generate larger surpluses, which will have to be sold at low prices. It is probable that subsidies will continue to constitute a structural feature of agricultural policies. Unlike what happened in the Green Revolution, the technology of the biotechnological revolution is private property, and this fact immediately poses problems of adaptation, patenting and transfer costs.

b) *Internal aspects*

New technologies may help to eliminate crucial bottlenecks, especially in the modernization of processes, and help to raise the productivity of the rural sector, of medium-sized and small enterprises and of labour in general. As has been pointed out, technological backwardness presupposes the existence of reserves of productivity; yields can be raised considerably through the introduction of relatively simple innovations.

Technological options —whose validity will depend on the market that is being catered to— will be expanded, especially in scenarios with a low growth rate. The shortening of the production cycle as a result of the rapidity of innovations accelerates the obsolescence of capital goods. There may also be interesting possibilities of changes in scale advantages.

Information technologies provide solutions for a number of problems that arise at the various levels of public administration, especially with regard to the large-scale processing of information relating to its various functions and to the planning process. National and regional integration may be facilitated by the use of such technologies; decentralization may be helped to move from the level of talk to the level of reality.

The satisfying of various basic needs —food, energy, health, housing, transport, personal safety and a clean environment— may be significantly supported through the utilization of these new technologies. Their dissemination and application in the context of public health will have a positive impact on people's life expectancy.

An especially interesting area is that of construction materials. The appearance of plastic filler opens the possibility for more intensive utilization; the same thing is happening in the case of fibre-reinforced composites.

Biotechnology also offers promising possibilities to Latin American agriculture. Nitrogen-fixing in crops such as rice or maize would reduce the amount of money spent on fertilizers. The development of varieties that make more efficient use of water would permit the farming of new land or the better utilization of currently used land. Fast-growing forest species may make

a significant contribution and prevent the processes of desertification. With regard to livestock, genetic engineering is opening unforeseen possibilities, although it is not yet close to bearing fruit. The creation of hormones, vaccines and reproduction technology may promote the breeding of animals with various predetermined characteristics.

New technologies unquestionably have an effect that is likely to cause unemployment in those cases in which the objective is not to increase production but to make it more efficient. However, there are also sectors in which the introduction of such technologies can increase both productivity and employment at the same time. This is true, for example, of small and medium-sized enterprises, which can

increase their demand for labour if they have a better supply of relatively inexpensive producer goods which are simple and easy to maintain and repair, as has already happened with the introduction of electronic machines. The same can be said of much of the informal sector, especially if appropriate applications are developed, for example in the improvement of hand-held machine tools. A consideration of some importance for the evaluation of this problem is represented by the level and modality of economic growth that can be attained with the new technologies. This is so because under certain conditions of adaptation of the fruits of technical progress, accelerated growth of an economy can raise the entire population's standard of living (Lahera and Nochteff, 1983).

IV Policies

1. Academic and policy approaches concerning technology and development

The relationship between technological policies and regional development has been approached from various points of view. There are divergences between the different approaches, but there are also shared features, depending on the point of departure, the main emphasis, the policies proposed and the development schemes they aim at, among other variables (see the annexed summary table).

The central problem, according to the neo-classical theory, is technical adaptation—which is interpreted chiefly as the acquisition of existing technology—of the developing economies in accordance with the international productive specialization of each of these countries. A preferred vehicle for the transfer of technology is represented by transnational corporations, a fact which emphasizes the importance of the climate for investment. A second channel is international competitiveness, which is attained by reducing protectionism. This view is explicitly associated with a capitalist approach to development.

The orientation that derives from the theory of dependency centres on the condemnation of a set of problems created by the technology generated in industrialized countries: poor adaptation to the factors found in the country and difficulties relating to the transfer of technology (prices, conditions, time-limits, restrictions and others). Its recommendations for policy are weak ones: opening of the technological package and control of the transfer process. It is implicitly associated with a view of development that assigns a crucial role to the public sector.

A policy answer to the theory of dependency is the approach of adapted technology. This holds that the developing countries should adopt a technology appropriate to the resources they possess—oriented towards capital economies and labour-intensive—which is non-contaminating and which will promote "another kind of development" that is more humane. It reveals a strong ethical inspiration, as well as a special value placed upon participatory development. However, its aims and aspirations are usually unrealistic, and it fails to explore in detail those specific aspects in which its postulates would be valid. Its view of technical progress in terms of an isoquantum resorted to as one

Summary table

ACADEMIC AND POLITICAL APPROACHES CONCERNING TECHNOLOGY AND DEVELOPMENT

Approaches	Point of departure	Main emphasis	Policies proposed	Model of development	Principal authors
Neoclassical	Economic. Existing technology, key to productivity and competitiveness.	Absorption of the necessary technology in accordance with international specialization.	Promotion of direct foreign investment; liberalization of foreign trade.	Capitalist.	Moore (1983)
Dependency	Political economy; asymmetries in the relationship between industrialized countries and developing countries.	Condemnation of developed technology.	Opening of the technological package; State control of the transfer of technology.	Close to socialism, with preponderance of the State sector.	Vaitsos (1974)
Adapted technology	Ethical and social. Lack of humanity of the current approaches to development, technocratism.	The need for "another kind of development".	Promotion of technologies that economize on capital and are labour-intensive. Non-contaminating.	Ecology-oriented, based on the satisfying of basic needs. "Alternative".	Schumacher (1973)
Endogenous nucleus	Economic and technological. "Grotesque" imitation of development. "Show-window" modernization. Limitations of the economic approach to technology.	Creation of a self-sustained and dynamic industrial centre. Opening of the "black box of technical progress". There are sectors which are the preferred carriers of technical change.	Modification of social attitudes in the face of technical progress. Promotion of liquidity, austerity, growth, competitiveness.	Mixed economy.	Fajnzylber (1983)
Selective endogenization	Technological. Potentialities of modern technology.	Technological options exist. Public policies constitute the key variable.	Selectivity in the absorption of technologies. Increase in the capacity for technological analysis.	Mixed, with State preponderance in technological policies.	Nochteff (1987) Lahera y Nochteff (1987) Pérez (1985)
Microeconomic	Consideration of cases. Recognition of the existing technological capacity in developing countries.	Idiosyncratic character of the function of production in developing countries.	Promotion of the local technological cycle. Differentiation of sectors.	Universe of reference: private firms, national and foreign.	Katz (1890)

pleases is an unrealistic one. Its approach to development is an ecology-oriented and alternative one.

The idiosyncrasy of the functions of production in the developing countries, in view of their various characteristics, is the point of departure of the microeconomic approximation. This approach emphasizes the productive and technological capacity existing in the larger countries of Latin America. Its universe consists of private enterprises, chiefly national ones.

The problems of the endogenous nucleus of productivity confer great importance on a country's own technological and industrial capacity, which can enable it to grow beyond a "grotesque imitation" of capitalist development. For attaining that goal, it prescribes the creation of a set of interrelated activities —including the capital-goods sector— which will promote a basic level of self-sustaining development and make it possible to absorb the new technological advances. It is implicitly associated with a mixed-economy scheme.

Close to the preceding approach is the approach of selective endogenization, which gives preference to the incorporation of technological knowledge into the national economy, on the basis of a model of industrial development whose characteristics must be defined in democratic form. It is implicitly associated with a mixed-economy scheme and includes substantial State participation.

The last two approaches are based on two fairly common assumptions: first, that selectivity in the transplanting of technology is possible; and second, that there exists a capacity to evaluate the technology being supplied. Although it is a fact that lack of selectivity causes problems, the question how to operate selectively remains unanswered. Both of these technical assumptions imply that there exists, or there can be formulated, socially shared criteria for the selection of technology and productive and social readaptation.

2. Some elements of possible policy

Undoubtedly there are important common factors among the different areas of technological interest outlined above. But beyond the unifying factor of the emerging paradigm (if such a thing exists), the discrepancies are equally significant.

The technological problems related to competitiveness involve the possibilities faced by exporters (actual or potential) with regard to improving supply in comparison with other competitors throughout the world, or of creating a niche for their products.

With regard to the internal market, it would be necessary to follow a policy oriented towards very specific problems: health, housing and education, among others. The main problem in this case is not so much competitiveness as efficiency. In the case of small-scale production, it is necessary to find appropriate technology, in addition to ensuring financial viability and State support for small producers, including the elimination of the institutional barriers that prevent their entry into markets. Organization, participation and self-management are also important.

With regard to the factors promoting the process of incorporation of technical change, it is beyond question that the private sector plays a fundamental role with regard to entry into international competition. Furthermore, small enterprises are, by definition, private firms.

It is also true that the State has an irreplaceable role to play in the progressive satisfying of basic needs. However, the State's role goes considerably further, for various reasons:

- There are areas in which the principal demand for the incorporated technology comes from the public sector.
- Research capacity and careers for researchers are usually found in universities, whose financing comes largely from the public sector.
- Centres for research and applied technology in various fields, especially in agriculture, belong mostly to the public sector.
- The State has greater bargaining power, especially if it knows what it wants and decides to go after it, which, in any case, is not usual.
- A high percentage of operations with technological content are concentrated in the State and in transnational corporations, including atypical markets.
- The mere taking of coherent action by the State would bring a substantial increase in the efficiency with which the scanty funds allocated to technological innovation are utilized.

It is important to avoid an Atlas complex: the State cannot and should not do everything, for technical, political, economic and social reasons. The private sector has a decisive role to play in the design and application of technological strategy, as well as in the distribution of currently available resources. The promotion of the entrepreneurial spirit is essential, beyond the forms assumed by the ownership of firms. At the same time, the age-old contradictions between planning and the market may be overcome in relation to technology as well. It should be mentioned that there have been no successful cases of productive transformation in which there was not some link between the public and private sectors.

Industrial policy should distinguish between the various integrated industrial complexes: the motivating industry in each case, as well as the common technical base, where appropriate. The sectoral emphasis will vary from one country to another, but attention must be given to considerations relating to the preferred carriers of technical change. This implies a clear industrial policy, particularly with respect to capital goods.

It is important to design not merely technological plans but industrial plans with a technological content, as was perceptively put by Carlos Aguirre, head of the Technological Policy Department of the Board of the Cartagena Agreement (JUNAC). Policies of this kind cannot be defined by National Councils for Science and Technology—at least their names would have to be changed. The preferred mechanism for the incorporation of innovations is investment, and the rate of investment has fallen sharply in Latin America, partly because of the troubled situation of the foreign financing sector. Bringing about a reduction in existing interest rates or a decrease in the principal of the debt will be a prerequisite for any technological policy.

With regard to meeting basic needs, we must take a normative approach, whereby society will set goals for the population as a whole or for particular sectors. These "privileged areas of demand" can be met with a significant contribution by technology.

Regional, national and international telecommunications form the indispensable basis for the application of new technologies. The

relevant policies must be based from the outset on a rationalization of these systems, as has been pointed out by Carlota Pérez (1985).

It is essential to maximize the internal capacity for creating and adapting technology, within limits which are consistent with the opportunity cost for the country. Among the factors required for such an effect the most prominent are the country's engineering capacity and the existence of specialized personnel. This presupposes increasing the supply of skilled human resources; preventing the brain drain; having an adequate knowledge of the country's national resources and of the technological options for their exploitation; and meeting important financial requirements (Katz, 1980). The advance of technology is not homogeneous; it actually involves a front of positions along which there is discontinuous and unequal advance, even though it is influenced by the evolution of the general situation. From another point of view, an understanding of the direction and significance of the advance requires a knowledge of the front in its entirety.

A country's capacity to copy and adapt will, in general, impose increasingly severe requirements, although there are exceptions, such as biotechnology. The international competition that exists in the various sectors related to the new technologies is extensive and intense in some cases and almost non-existent in others (Nochteff, 1987).

The system of patents should be revised in accordance with criteria that will combine the necessary protection of intellectual property and its fruits with the possibility of efficient dissemination of technological knowledge (Katz, 1980).

Various experiences prove that a technological policy is conceivable only if it is closely correlated with a scientific policy. Failure to manage the scientific rationale of technological innovation brings the penalty of becoming a mere acceptor of prices, dependent on the decisions taken by others concerning production and the orientation of markets. Technological intelligence constitutes a particularly suitable route when the technology is commercially available and when there is a possibility of taking advantage of it on the basis of development of the nation's engineering capacity. The transfer of technology is a training and information channel

of great importance, provided that there is an actual transfer, that is to say, provided that the technology is eventually mastered in its substantial and operational aspects by the country acquiring it.

With respect to the technology incorporated into equipment, special care must be taken, since this often initiates chains of technological determination whose cost keeps increasing. In this case too, the relationship will be continuous, although it will be increasingly burdensome for the recipient country (Lahera and Nochteff, 1983).

New technologies constitute a particularly favourable field for international co-operation between countries and institutions of the third world in general and of Latin America in particular. The similarity of the problems faced by the various groups of countries, as well as the necessity of achieving essential critical scales and critical masses, should stimulate such co-operation both in development and in the incorporation of this technology.

Transnational enterprises must adapt themselves to national development policies, objectives and priorities, contributing to the creation and strengthening of the recipient countries' scientific and technological capacity. For that purpose, it is indispensable that the recipient countries should define their objectives and priorities and should specify the particular contribution to be made by the transnational enterprises. Once the role of these enterprises has been determined, co-operation may be actively sought both from those already established in the country and from others of various sizes and origins. Policies governing foreign investment must be selective and active.

Negotiation with transnational enterprises is usually complex and not necessarily easy: however, there are points of agreement between the optimization of the firm's profits and the achievement of national objectives. The establishment of clear priorities and clear rules of the game for each case will facilitate the search for an understanding.

3. *Two unsuccessful experiments*

The main results achieved with the system of control over the transfer of technology relate to the balance of payments, not to technological

problems. The application of the various régimes seems to have resulted in a decrease in the annual rate of payments for technology, as well as a decrease in the significance of these payments as a share of the recipient country's total exports. At the same time, State intervention has improved the recipient enterprises' capacity to recognize and resist the imposition of unfavourable contract terms; the time-limits of the contracts have also been shortened (Correa, 1983).

There is one point which is causing concern to the organizations responsible for science and technology in Latin America. In many countries there have been notable advances in the formulation of *ad hoc* national plans, which have *inter alia* the merit of making public opinion aware of the situation, making analysis more homogeneous and providing common foundations for action by various participants. On the other hand, there is a limited—and perhaps already nearly exhausted—area in which measures for the co-ordination or the non-traumatic reallocation of resources can serve to promote effective advances. The organizations are ready, the relationships between the objectives are complete and well-grounded; the lines on the organizational charts are not dotted lines but are straight and clear. And yet problems continue to exist.

In general, national systems lack the essential resources. National plans for science and technology frequently appear as an unintegrated annex to development plans. The link to the production apparatus is weak or non-existent. There is a lack of political will; meanwhile, regulations and institutions proliferate until they reach the proportions of the map in the short story by Borges, which was drawn on a scale equal to that of the real world. The administrators of such organizations are very well aware of these problems. They wonder whether laws are enough. Technology cannot be separated from the productive apparatus, nor from the satisfaction of basic needs, nor from basic research. The scientific and technological system may be able to co-ordinate, to produce incentives, to provide subsidies and the like, but it cannot replace scientific and technological activities.

As has been pointed out: "After a hegemony that has lasted a whole decade in Latin American thinking about scientific and technological policy, the systems approach has completed its cycle

of development. Its principal contributions have been extensively disseminated and incorporated into the theory and practice of scientific and technological policy, and it may be said that they have laid the foundations for new approaches to be used in the future... It does not seem appropriate to go on developing abstract conceptual models and global schemes of the scientific and technological system. There is little that can be added to what already exists in this field... Some applications of the systems approach at the sec-

toral level continue to produce interesting results, but they will probably reach the limit of their usefulness in the near future" (Sagasti, 1983).

It therefore seems inevitable that we must go further and place the debate on technology within the framework required by new circumstances—in other words, a framework of productive restructuring of the Latin American economy.

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Notes on microelectronic automation in Brazil

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The objective of this work is to evaluate the results of the principal investigations conducted in recent years on the socio-economic implications of microelectronics-based automation in Brazil, and in particular the investigations carried out by the author himself.

These investigations focussed on the quantitative and qualitative impact produced on labour and on patterns of accumulation by the dissemination of microelectronics-automated equipment in Brazil; the link between external restrictions, automation and employment; the relationship between microelectronic automation and competitiveness; and lastly, an evaluation of the main socio-economic questions inherent in the dissemination of the microelectronic technical base in Brazil.

A very brief section describes some of the technological-industrial and labour conditions existing in Brazil prior to the more intensive dissemination of the new technical base in the early 1980s. The next section characterizes this decade as particularly important for the Brazilian economy and presents some dimensions of the crisis, the levels of dissemination of microelectronics-automated equipment, the volume of employment related to them and the sources of competitiveness that led to a sudden increase in the export of products of local industry. The three subsequent sections give a more detailed but brief analysis of three complexes: first, textiles, clothing and footwear; second, metal-mechanical work; and third, electronics. In the last section we raise two fundamental problems to define the directions in which the Brazilian economy is to develop during the coming decades: the updating of capital-labour relations and the integration of industrial and technological policies.

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Introduction

Brazil entered the 1980s with an industrial base of large proportions and with a reasonable degree of complementarity in the production system, from consumer goods for workers to sophisticated producer goods used for producing other capital goods. For at least three decades, using essentially electromechanical techniques, Brazilian industrialization was reflected in high rates of economic growth, averaging about 7% per year. Throughout this period, growing numbers of workers were incorporated into the capitalist production system, becoming consumers. In spite of this, income distribution grew worse, to the advantage of a population class which became smaller and smaller in numbers and more and more wealthy.

Social relationships in the production sphere followed two basic paths. On the one hand, the physical organization and the methods of production were reflected in the theories of Ford and Taylor, although it was still necessary to make many adaptations because of local characteristics.

Thus the constant improvisations necessitated by technical change implied a fairly versatile labour force that could enable a previously existing quasi-handicraft-agricultural technical base to coexist with an electromechanical base that was being established. In these terms, highly skilled workers created concrete possibilities for the installation and functioning of a manufacturing base which is already one of the eight largest in the world.

On the other hand, capital-labour relations in Brazil were formalized by the law, under strong co-operativist influence, when the country began to pass through the first convulsions of the replacement of industrial-goods imports during the 1930s. The changes in labour legislation up to the present decade tended in general to favour the populist and/or authoritarian interests of the governments. In essence, under these conditions, the creation and growth of an industrial labour force were not accompanied by an adjustment of labour problems to the functioning of an industrial economy that was only minimally developed. So-called "white unionism" was the norm and not the exception; in

addition to this, the long period of continued industrial expansion concealed a series of questions inherent in the dynamics of a modern capitalist economy. A clear example of the foregoing is the fact that problems characteristic of a

mature industrial economy, such as technological unemployment, possibly associated with the process of modernization, never arose because the economy and employment were expanding so rapidly.

I

The introduction of microelectronics-automated equipment (MAE) in Brazil and the question of competitiveness

The decade of the 1980s is significant for the Brazilian economy because of at least three factors. At the beginning of the decade there was a severe economic crisis which, for the first time, caused high levels of industrial unemployment in the country. A typical example was the 30% drop in the production of motor vehicles between 1980 and 1981, which resulted in the unemployment of 25% of the labour force in this leading industry. Another characteristic of the evolution of this crisis was the high degree of external indebtedness that developed, with the result that the economy came to be oriented more towards exports in order to obtain foreign currency. Using exports as a way out was also more or less "natural" for many of the enterprises that saw the utilization of their productive capacity decline suddenly with the withdrawal of domestic demand. In actuality, this withdrawal immediately created a need to increase the efficiency of these enterprises. Thus, merely as a matter of survival, they were forced to reduce the amounts needlessly spent on fixed capital, circulating capital and personnel, to improve the productivity of these factors and to seek new markets for their activities. Many did so by means of exports, which in turn required an improvement of competitive capacity, either through an appropriate cost structure, through a pattern of quality indispensable to certain markets, or through the capacity to deliver goods on time within agreed time-limits.

This means that while foreign-exchange policies were decisive, on the one hand, in making a number of manufactured products competitive during certain periods, this competitiveness also arises from the specific

comparative advantages of the various industrial complexes that existed in the Brazilian economy (Erber, F., Araujo Jr., J. T., and Tauile, J. R. 1985). Thus, the iron and steel industry, the petrochemical industry and the cellulose-and-paper industry, all of which sell intermediate products and whose production is organized basically in the form of continuous flow (in other words, with low labour-intensity), are favoured by the "technical age of productive capacity". They benefit "especially from the modernity of the installations constructed in the recent past" (*ibid.*), as well as from the availability and low prices of local inputs (and obviously also of the minimal production scales already attained locally).

The products of the textile/clothing/footwear complex derive their competitiveness chiefly from the relative cost of local resources. "Intensive use is being made of relatively abundant natural resources (for example, fibres and hides)" and especially "relatively cheap manpower" (*ibid.*).

There are also a number of manufactured products (requiring a reasonable amount of technological processing) within the metal-mechanical complex, such as producer goods, weapons and durable consumer goods, which, in addition to requiring sufficient technological skill—something that already existed in the country—satisfactorily meet the demand of specific markets sufficiently akin or similar to the characteristics of Brazilian markets. In this context, a substantial share of such exports is intended for "trade between peers", with countries whose degree of development is close to or lower than that of Brazil, although it also

extends to market niches in the so-called developed countries of the North, as evidenced by the export of aircraft and of automobiles and auto parts to those countries (*ibid.*).

The second outstanding factor for this analysis relates to the increase in the levels of dissemination of microelectronics-automated equipment (MAE). In general, a policy for the local and national development of production training in the field of electronic data-processing equipment (EDP) began in the 1970s, on the basis of an implicit "alliance" between segments of the armed forces (especially the navy) and Brazilian intellectual élites with technical training, engaged in professional activities, particularly in information science. The generally accepted view of this movement was that Brazil was facing a strategic problem that involved national security, in various aspects (military, economic, social and the like). Convinced of this perception, at the end of the decade the military government created a Special Secretariat for Information Science (SSIS) [*Secretaria Especial de Informática* (SEI)] at the ministerial level in order to formulate and carry out policies for this sector.

With regard to MAE, implementation of the policy formulated by SSIS began during the 1980s, pursuing the successive objectives of technological and industrial training for the production of digital control boxes (DCs), logically programmable controllers (PCs), computer-assisted design installations (CADs) and industrial robots. This policy has been based on the purchase or initial licensing of technology by Brazilian enterprises which would later make a concentrated effort to absorb it in a relatively short period (four to five years) and develop it, thus creating national skills. It is not yet possible to make a convincing analysis of the results of this policy. Actually, some skills are being created, since at least 90% or so of the digitally controlled machine tools (DCMTs) and almost all the PCs put into operation in 1985 had been manufactured in the country. However, such equipment is still very expensive in comparison with foreign equipment of the same kind. It is argued that this is due to inadequacy of scale and to the high cost of materials and components, but the lack of competitiveness in a protected market may be responsible for a significant portion of this difference in price.

The rates of dissemination of DCMTs and PCs remained stable during the early part of the 1980s. This was followed by a movement that included two opposing trends. On the one hand, financial difficulties inhibited investment in new equipment, while on the other hand, the search for greater productivity stimulated it. In any case, beginning in 1983-1984, with the recovery of growth, the dissemination rates increased (including CADs and robots) and caused a progressive and intensive utilization of local productive capacity. The amount of installed MAE in 1985 was estimated at 1 600 DCMTs, 1 600 PCs, 70 large-capacity CADs and 20 industrial robots (Tauile, 1986a).

More recent data obtained from the Brazilian Society for Digital Control and Industrial Automation (*Sociedade Brasileira de Comando Numérico e Automação Industrial - SOBRACON*) show that in 1987 Brazilian manufacturers sold 1 018 DCMTs (worth about US\$200 million) on the domestic market, bringing the inventory of this type of equipment up to 2 928 units (*Boletim SOBRACON*, Vol. IV, No. 37/38, 1988). This source indicates that 71 large graphical computation systems (CAD/CAM) and 540 small ones, based on microcomputers, were sold in 1987. Sales amounted to approximately US\$8.2 million and US\$20.8 million respectively, and installed equipment in that year included 190 large units and 732 small units. In the area of robots, 18 units, with a total value of US\$45.1 million, were sold in 1987, raising the existing inventory to 87 installed units. As for logically programmable controllers, notwithstanding the difficulty of recording a large variety of models and applications, SOBRACON estimates that invoiced sales amounted to US\$32 million.

The increase in the levels of dissemination of MAE also means that a larger number of workers are carrying on their activities by using the microelectronic technical base. In 1985 approximately 220 000 workers were employed on various microelectronic data-processing units (Tauile, 1986a). In the light of the accelerated dissemination of such units from that time on, it may be estimated that the number of workers associated with this field is now over 300 000. This brings us to the third fundamental axis of the analysis: it is becoming increasingly urgent to improve capital-labour relations in Brazil,

with the appropriate institutional approval. The opportunity is almost unique, or at least particularly favourable for this, owing to the process of liberalization and democratization of the political régime and of the present installation of a National Constituent Assembly. However,

before analysing this aspect, we shall give an overview of the process of dissemination of MAE in terms of some of the fields in which it is utilized and the respective factors which stimulate or retard the dissemination of this type of equipment in Brazil.

II

The dynamics of dissemination through industrial complexes

1. *The textile/clothing/footwear complex*

In this complex the dissemination of MAE is still very low and is not essential, in the short term, for guaranteeing the current pattern of competitiveness of enterprises, in relation either to the domestic market or to the foreign market. In the latter case, as mentioned before, competitiveness derives from the availability and low cost of these factors, particularly manpower, and on the other hand, the dissemination of MAE in this complex is still limited at the international level; there is no expectation that relevant structural modifications will come in the short term as a result of some spectacular technological advance.

a) *The textile sector*

In the case of the textile sector, the use of microelectronic devices does not radically change the organization of production. All it does is accentuate the already existing tendency, even in the electromechanical base, to assimilate it to a continuous flow of production. Owing to the diversity of the demand structure, the corresponding production base is also fairly heterogeneous, and the enterprises which cater to the foreign market are in general the ones with a concentration of more modern and advanced equipment. However, the use of such equipment is not yet being considered for the exports of this sector. Actually, as a result of the crisis of the early 1980s, and stimulated basically by currency policies, many enterprises have succeeded in penetrating the foreign market, so that exports

in 1985 were up to US\$1 billion, which represents 30% of the sector's output (Tauile, 1986b).

The main reasons that motivate entrepreneurs in this sector to introduce microelectronics-based automation are: higher quality required to compete in foreign markets, greater control over the production process and greater competitiveness. Among the obstacles are: the high cost of automated equipment, the difficulties of importing it, low wages and the ability to compete in the domestic market with less sophisticated equipment (*ibid.*).

b) *Clothing*

With regard to the ready-to-wear clothing sector, as in the preceding case, the profile of domestic demand is fairly heterogeneous, although this has already been catered to by an extensive production structure which includes countless microenterprises and small enterprises. The exports of the sector were slightly less than 1% of the total amount of manufactured goods exported in 1984.

In any case, even on the international scene, the degree of integration between the various steps of the production process is low, the utilization of manpower is still intensive, and no rapid dissemination of MAE is foreseen; it tends to be concentrated in the area of production management and in the optimization of fabric-cutting (Tauile, 1986c). In the Brazilian case, savings on manpower, which —as mentioned before— is very cheap, do not constitute a strong incentive, although savings on materials

may be significant. This also means that the reasonably simple CADs used for the optimization of cutting may be supplied perfectly well by local industry.

Among the factors that stimulate the utilization of MAE in the sector are: simplification of the initial tasks of the production process, savings on materials, savings on skilled labour for preparation, better quality of the final product and creative flexibility for launching new models, in addition, naturally, to efforts aimed at an increase in competitiveness and the recovery of the economy.

With regard to the factors that discourage the introduction of MAE, in addition to the recent economic crisis, which caused a general postponement of investments for the expansion of productive capacity, we should mention: the low cost of manpower, the high cost of the MAE, the cost of training the operators and the difficulties in maintenance (Tauile, 1986b).

Lastly, entrepreneurs argue that both in the clothing sector and in the textile sector, the lack of a well-defined technological policy has retarded the process of dissemination of MAE.

c) Footwear

The manufacture of footwear also makes intensive use of manpower (it employs 3.2% of the labour force in the processing industry, but it represents only 1.5% of the aggregate value). The great majority of the industry consists of microenterprises and small enterprises, with a total of more than 4 500 firms. Of this total, however, scarcely more than 300 are exporters, although they account for a relatively high share in comparison with the rest. The foreign market has grown in importance for this sector, which is already responsible for more than 7% of the exports of manufactured goods. More than 25% of the sector's output is exported, and over 80% of this amount is sent to the United States. On the other hand, it should be noted that the producers do not control the export channels (*ibid.*).

In technological terms, it may be said that in the manufacture of footwear "hand-made" is a synonym for high quality, and this is contrary to one of the main grounds cited for the use of automated equipment. The Brazilian footwear

industry has incorporated few of the most recent microelectronics-based technological innovations, of which there are not many in any case. Even with regard to automated design for the modelling and development of products, there are no indications of any significant dissemination in Brazil. Some of the possible stimuli for automation would be: precision, flexibility of the production line and reduction of leather-cutting costs (flexibility is the most important stimulus in Brazil at present).

Among the discouraging factors, the most important is the irregular nature of leather, as a result of which cutting by hand is still indispensable. Moreover, in this sector too, the low cost of manpower, the small scale of the producing units and the low degree of specialization are important factors which retard the dissemination of MAE. It should be mentioned here that entrepreneurs in this sector take little interest in the possible importance of microelectronics-based automation for the success of their business.

2. The metal-mechanical complex

The dissemination of MAE through the metal-mechanical complex has contours which are better defined, both internationally and in Brazil. It has already reached higher levels and is of much greater importance than in the textile/clothing/footwear complex. In the sectors of the metal-mechanical complex the limits of automation traditionally established by electromechanical devices were overcome by the development and introduction of MAE (Tauile, 1986a). The consequences, both at the product level (quality and diversification) and at the level of organization of production (profile and volume of employment, control of the process, etc.) and at the level of cost structure (economies of scale, productivity, etc.) significantly altered the patterns of competition, mainly in the international sphere, where new microelectronic techniques are already more widely disseminated. The following sectors, although they belong to the same complex, have very different characteristics, both with regard to the structure of ownership or demand and with regard to the scale and organization of production.

a) *Machine tools*

The manufacture of machine tools has been affected to a considerable extent by the dissemination of the new technical base. To begin with, the machine-tool sector itself, in addition to being the producer of MAE, is also one of its principal users. In Brazil this sector had reached a level of internationally recognized competitiveness in the 1970s on the basis of electromechanical equipment, most of which was owned by Brazilian private capital. Of the 102 locally established enterprises in 1975, 18 were foreign subsidiaries, and half of these were German. Several of them had been recently installed as a result of the stimuli of the Second National Development Plan, which was intended to consolidate the formation of a capital-goods sector in Brazil. Although the foreign enterprises were not the largest ones, they specialized in the production of more advanced and more complex equipment, and this remains true to the present day. Nine subsidiaries of German enterprises are responsible for about 60% of the production of DCMTs (Stemmer, 1985), which in 1987 had reached the level of 800 units produced per year.

Even though the portfolio of machine-tool orders has been systematically kept full, so that the sector could grow substantially and make new investments in equipment (in addition, as has been mentioned, to being the sector which made extensive use of DCMTs), prices remain significantly high: they were two or three times as high as those of similar equipment sold on the international market (even the equipment made by the German subsidiaries' parent companies). This is curious, since the alleged reasons of high material and component costs and small-scale production cannot cancel the savings derived from the use of cheap labour. It is useful to remember that this type of production makes intensive use of skilled labour, which is fairly easy to find locally.

In the face of import difficulties, it is worth mentioning that the high prices of locally produced MAE continue to be the greatest obstacle to its dissemination in Brazil. On the other hand, the rapidity of the dissemination creates a relative but transitory shortage of skilled labour to operate, maintain and program them.

The principal stimuli for making the sector adopt MAE are related to the guarantee of preci-

sion (and of quality) afforded by the complex units used for production and by the economies of scale, that is to say, the flexibility of rapidly reconvertible equipment, which is very important in small-scale production.

Machine-tool producers have made efficient use of their MAE, sometimes even using experiments with group technologies, automated cells, etc., which produces a sort of technological convergence and apprenticeship in economies of scale (even though there is no complete flexible manufacturing system now installed in Brazil, nor are there any plans to install one).

Three other facts with regard to this sector should be mentioned here. In the first place, there is a shortage of simpler and cheaper MAE, to meet the demand from many small and medium-sized enterprises and enable them to take advantage, at least partially, of the skills of the existing labour force (Tauile, 1984a).

In the second place, the international competitiveness of the sector has been severely shaken, either because MAE has taken conventional (electromechanical) machine tools out of the market and local industry has not yet managed to reconvert efficiently or because the principal purchasers (which are also developing countries, such as Mexico) were badly hurt by the crisis of the early 1980s. In fact the exports of the sector during the first half of this decade were reduced to barely one quarter of the 1980 level and show no signs of recovery.

Lastly, there is some fear that the change in the technical base may stimulate the process of centralization of the industry, to the benefit of the most capable and financially solid enterprises and of those which are the most dynamic technologically. This process would favour large enterprises and the subsidiaries of foreign enterprises. Moreover, this problem is not limited to the manufacture of machine tools; as the nucleus of a technological convergence, it radiates into problems similarly encountered in the rest of the economy (*ibid.*).

b) *The automotive industry*

The automotive industry is led by four major transnational assembly enterprises which practically dominate the entire automobile market in Brazil. There are three other large assembly

enterprises of European origin which specialize in the production of commercial vehicles (buses, trucks, etc.). In the automobile-parts sector, participation by Brazilian private capital now constitutes the majority, even though some of the major enterprises are subsidiaries of important transnational firms.

In 1980 the industry produced almost 1.2 million vehicles, which indicates a reasonable degree of industrial maturity. However, both the models offered and the methods used to produce them were still lagging substantially behind the internationally prevailing patterns. The sharp drop in production during the following year forced the assembly enterprises to redefine their strategies in order to guarantee better and more effective utilization of their productive capacity. The choice generally made was to produce models similar to those produced in the developed countries, so that they could also be exported, thereby creating a flexibility that would enable the enterprises to reduce the under-utilization of their installations (Tauile, 1984b).

It can be said that from that time on, the Brazilian automotive industry entered a new phase of its development, a phase of greater integration into international industry. By 1981, exports had doubled, reaching almost 27% of total production, and thereafter they decreased slightly, although never to less than one fifth of total production. From 1982 to 1983, General Motors and Ford launched their "world cars", in which they were followed in 1984 by FIAT and VW (which does not agree that "world car" is a novel concept and had in fact been producing more up-to-date models since 1980).

The production of the new models was accompanied by the introduction of new production lines and MAE such as: robots, DCMTs, flexible transfer-machine systems, flexible multiple welding systems, magnetic-car transport systems, air transport systems, automated systems for final tests of vehicles, real-time control systems for production flows and the flows of intermediate inventories, etc. In actuality, a development as important as or more important than the introduction of these types of MAE was the generalized effort to make production more efficient, avoiding waste and reducing the formation of inventories, through the introduction of adapted forms of "just-in-time" (or "kan-

ban") systems. This search for efficiency and modernization affected both assembly enterprises and suppliers of automobile parts, and it certainly resulted in production patterns (quality, capacity for on-time delivery, cost, etc.) which were closer to the international patterns for this industry (*ibid.*).

Although Brazil still does not have a mass dissemination of MAE that can measure up to the levels of developed countries, the level is already becoming significant in relation to Brazilian patterns. Assembly plants were pioneers in the use of robots. DCMTs are coming to be more widely used by the tool-making shops of assembly plants and by the producers of auto parts, chiefly for trucks (small scale) and/or for the foreign market, and programmable controllers are being put to the most diverse kinds of use on the production lines of both sectors (*ibid.*).

In any case, all the assembly plants recognize that this is a phase of apprenticeship in the new technical base, so that MAE may be even more intensively and efficiently used in future production lines manufacturing new models. The main incentives for its utilization involve guarantees of quality, greater control of the production process and greater flexibility of the production lines. The main disincentives are the low cost of the labour that can be replaced by automated equipment (by robots, for example), the high cost of such equipment, and the productivity of such equipment and of the production lines previously in operation.

c) *The aircraft sector*

In the aircraft industry the main Brazilian enterprise (a State enterprise) has no need, in terms of quality of products and up-to-date status of production processes, to envy other enterprises in the world that operate in the same market sector. EMBRAER has been using DCMTs since the first half of the 1970s and has been using automated design since the beginning of the 1980s.

Fundamentally the MAE in this industry is justified by the absolute requirement for precision and high quality that must be satisfied by anyone who wants to sell aircraft (chiefly on the international market), by the small scales of pro-

duction and by the flexibility required of the equipment. Owing to the characteristics of the necessary production techniques and to the fact that it is State-owned, this enterprise initially enjoyed special facilities for importing foreign equipment, thus staying close to the international state of the art.

Among other factors making for the technological success of EMBRAER are: strong military (air force) support, the proximity and integrated support of the Research and Development Institute of the Technological Centre for Aeronautics (*Instituto de Investigações e Desenvolvimento do Centro Tecnológico de Aeronáutica*) and the training of engineers by the Aeronautical Institute of Technology (*Instituto Tecnológico de Aeronáutica*). Lastly, it should be mentioned that the market was protected by a prohibition on the import of any aircraft similar to those produced by EMBRAER.

EMBRAER has collaborated closely with Italian companies, obtaining technological licenses or participating in joint projects (as in the case of the AMX. Until recently almost all the avionics components of its aircraft were imported. The policy of nationalizing its production has stimulated the granting of licences by Italian enterprises.

3. *The electrical-electronic complex*

MAE has not yet been utilized to any significant extent in the production of computers and telecommunications equipment (the electronic complex), chiefly because of the lack of large-scale production.

a) *Computers*

In recent years the Brazilian computer industry has grown, been nationalized and become deconcentrated. From 1973 to 1985, Brazilian enterprises, which accounted for 23% of the market, grew in geometric progression at an average rate of 59% per year (as opposed to 7% for the multinationals) until they possessed more than 50% of a market estimated at US\$2 billion and employing more than 30 000 workers (more than one-third of whom are highly skilled). The five largest enterprises,

which had controlled 88% of the market in 1974, were reduced to 46% in 1984.

In terms of technological updating, the products are not too far behind international patterns. In 1984 the lag of the microcomputers produced in Brazil was approximately one year, but it was longer for minicomputers and peripheral equipment (Tigre and Perine, 1984). This performance, which actually was not maintained at the same level, is attributable to the high technological skill of some national enterprises and to the fact that the main components can be acquired on the international market.

Production processes are falling further behind the state of the art. The levels of automation are low; in general, production costs are high in comparison with those of other recently industrialized countries, a fact reflected in the poor performance of the export sector. In 1984, exports amounted to US\$150 million, of which IBM represents about 80% (Tauile, 1986b).

As a result of the process of import substitution, which made the birth of the Brazilian computer industry possible, the capacity to design or adapt computers developed without any similar concern with production processes. Thus the market had a great diversity of models whose production was relatively small-scale and consequently could not be automated. On the other hand, the high costs did not represent any great problem, since they were passed on to the consumers, in the light of the fact that the market was protected from foreign competition and demand was only small.

As the industry develops, this picture is tending to become modified. Competition is growing with the entry of new firms which are contending for the growing market, and thus there is greater concern about the production process in general and about costs in particular. The increase in scale has not yet been reflected in the patterns of automation, chiefly because labour is very cheap. Indeed, priority for the use of MAE is justified not in terms of costs but in terms of improved quality, and above all in the advancement of design capacity. Thus a recent investigation showed that MAE is being gradually introduced into the areas of design, quality control and assembly (Hewitt, 1986). In the light of the lack of large-scale production, the costs of introducing MAE into the production of compu-

ters in Brazil are becoming prohibitive. Similarly, its introduction at the present time represents a high-risk investment because of the rapid obsolescence of present-day technology.

Despite the differences with regard to the history of its establishment and development, as well as the characteristics of the present industrial structure, the production of telecommunications equipment in Brazil is troubled by the same problems as the production of computers with regard to the introduction of MAE.

b) *Telecommunications equipment*

The telecommunications-equipment industry entered a new phase in 1974, when the government began to stimulate the development of a national segment of the industry and when microelectronics-based digital technology began to be adopted as a pattern. The principal instrument of policy was the monopsonistic power of the State, which was the principal purchaser of telecommunications equipment and which required its suppliers to prove that at least 50% of their circulating capital was Brazilian-owned. The main foreign enterprises

in the sector "nationalized" their capital, becoming associated with large international groups in Brazil. A large number of telecommunications-equipment units, digitalized and/or microelectronics-based, were developed and produced since that time by the industry, in technological patterns not very different from the international ones. The fact that there existed a reserve of the market for computers, and that there was a technological convergence with computers facilitated the development of an authentically Brazilian segment in this industry.

In spite of all this, there is still an appreciable degree of technological dependency, and both in costs and in quality the lag behind the international state of the art is considerable. As mentioned earlier, the problems are basically the same as those faced in the production of computers.

The lack of large-scale production and the low cost of manpower are the principal obstacles to automation based on MAE, which should come gradually in the areas of design, quality control (testing) and assembly, in order that Brazil's telecommunications industry may become more competitive internationally (Tauile, 1986b).

III

Final observations

In conclusion, it is important to mention two points. The first relates to the updating of capital-labour relations in Brazil, and the second to the integration of industrial and technological policies.

The existing lag between a reasonably developed economy which is beginning to work with the microelectronics base and a labour legislation which goes back to the origins of import substitution in Brazil should be reduced, if not eliminated. In actuality, this is not so much a lag as a distortion provoked by rapid and continuous economic growth and a succession of populist or authoritarian governments which inhibited and repressed trade-union movements capable of genuine adaptation to the new production base that was being established.

In addition to higher levels of capital productivity resulting from industrialization, this also guaranteed even greater returns through the simple relative devaluation of work. In fact the electromechanical technical base that had been established with the industrialization of Brazil is incomparably more productive from the capitalist point of view than the quasi-handicraft base that had existed in the past. Moreover, much of the equipment installed by multinational enterprises had already been depreciated in its countries of origin and was being "revived" for a new accumulation cycle. The rates of profit related to their new utilization were thus potentiated, in view of the fact that in the numerator the fixed constant capital, referring to equipment, had been reduced almost to zero.

Lastly, the failure to improve labour legislation, as well as the incentive for corruption in the trade-union movement (in addition to wage reductions, etc.), represented in practice a reduction of the cost of social reproduction of the labour force, and therefore a new increase in the rate of research, which in turn increases even further the rates of profit prevailing with the new production pattern.

During the past 10 years the Brazilian trade-union movement has been rediscovering its identity. Initially there was absolutely no concern about technological factors, in view of the immensity of the other problems confronting workers in Brazil. Nevertheless, during the past five years, as MAE came to be more widely used, the principal trade unions have become more aware of the undesirable effects of the new wave of automation. It is interesting to note that the unions have never opposed the process of microelectronics-based automation, but they naturally want to safeguard their rights and guarantee for themselves a suitable share of the production gains made.

Entrepreneurs and production managers who are experimenting with equipment using the new technical base are coming to realize that they must be able to count on a more reliable, and therefore more stable, labour force. This would seem to mean that there is a way to negotiate new capital-labour relations in Brazil. It is not clear how much progress can be made within this context, chiefly because much of the industry is still developing in the traditional way and is being led by entrepreneurs with a conservative mentality and faults rooted in the long period of authoritarian rule which the country underwent recently. What is beyond question is the urgent need to make sure that the technological evolution of the production apparatus is based on improved and more compatible social relationships.

For all these reasons, it would be desirable that the democratic ideals expressed by the Brazilian people when it elected a constituent assembly should also be given tangible expression in a minimum body of laws to protect workers from the undesirable effects of the process of technological modernization, which will not be an undesirable process for them if it also brings effects that are in their favour. Moreover, this is

obviously fair: if Brazil is using equipment which is already standard in the so-called developed countries, the existing labour laws should also be reformed to make them at least similar to the laws in force in those countries.

The second conclusion to be drawn relates to the integration of industrial and technological policies, in an attempt to maintain (and, if possible, to improve) the competitive capacity of Brazilian industry and also to promote a policy of effective technological training in the country, with a view to long-term economic and social development.

In actuality, the technological jumps produced by factors extraneous to the dynamics of the local economy should be avoided for the present, at least until labour legislation is brought up to date, so as to avoid creating distortions even greater than those mentioned. On the other hand, if the trend towards redemocratization of the country prevails, it is to be hoped that there will be a social appreciation of local labour, and consequently a gradual increase in real wages. Enterprises will probably try even harder to make their production processes more efficient and more modern. This means that there will be a continued incentive for the dissemination of MAE, since it is essentially through increased productivity that enterprises will be able to maintain their profitability.

This continuous increase in demand can be met in large measure by the local production structure, provided that there is sufficient incentive to make the necessary investments in research and development, in increased production capacity and, over the long term, even in the import of producer goods or particularly strategic production methods for the ordered development of the industry. What must be avoided is a situation in which the industrial sectors thus encouraged (principally enterprises of foreign origin) enjoy the benefits of an oligopoly as a result of the fact that protection of the market does not fulfil its objectives. In other words, after a period of implantation, production in the leading industrial sectors should be, if not at the advanced level of the international state of the art, at least within the range of costs that are compatible with those prevailing on the international scene. In the case of MAE there is no justification for incompatibility.

It would thus be possible to avoid excessive and unnecessary acceleration of Brazilian industry's competitive capacity, and an effort would be made to ensure the necessary preservation of the capacity to produce and to design the equipment using the new technical base, particularly if account is taken of the long term, when such goods will no longer be the vanguard and will become the standard of technology, and beyond this, when the producer goods of today become the durable consumer goods of tomorrow. What would be happening would be the formation of a professional culture appropriate to a modern, democratic, social-welfare country. The strategy

is to preserve in Brazil the forms of work which have the highest aggregate value among those related to the incorporation of the new technical base, since in this way the country would not only cease to export high-priced jobs but also would be creating, at least in this sphere, a better-distributed income structure, which would have a dynamic effect on the internal market. In the final analysis, Brazil will also be preparing and training, from now on, a labour force capable of dealing (through production, design, programming or operation) with the future forms of material production.

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Exports and industrialization in Argentina, 1973-1986

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The objective of this article is to analyse the economic behaviour of manufactured exports as one of the modalities assumed by the process of industrialization of Argentina during the period from 1973 to 1986. To that end, we analyse the export opening of industry; the presence of manufacturing in export flows; the modifications in sectoral composition; the changes in the real trajectory of foreign sales; and essentially the association between industrial development and manufactured exports.

The study of the trajectory and composition of the export of manufactured goods during the period makes it possible to infer a series of useful elements of judgement. Taken together, they help to provide a better characterization of the profile of external sales, their principal rules of behaviour, the consequent modifications in their composition and, in summary, of those aspects which have to be interpreted as a prior and indispensable step for the design and formulation of policies which will effect their future dynamics.

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This work is a summary of some of the main results of a programme of research on "Industrial Exports" which is being carried out in the Industrial Development Area of the ECLAC Buenos Aires Office.

Introduction

The Argentine economy has been characterized by its cyclic behaviour. The growing need for imports, characteristic of the expansive phase of production, clashed with the low availability of foreign currency, which placed a limit on the continued growth of the economy. The phenomenon was manifested in the frequent balance-of-payments crises and in the consequent need to adjust the type of exchange in order to re-establish external accounts.

This cyclic behaviour and the recessive and distributive effects which—in spite of the postulates of economic theory—accompanied devaluations, motivated the publication in the 1960s and 1970s of a series of studies on the Argentine economy.¹ These studies conceptualized the macroeconomic functioning of the country in terms of the difference in behaviour between the evolution of the "two sectors": the agricultural and stock-raising sector of the pampas and the sector of industrial activities.

With regard to their relationships with foreign countries, the asymmetries of the two sectors were a central aspect of these models. The agricultural and stock-raising sector was characterized by the presence of comparative advantages on an international scale, which enabled it to export and at the same time to require almost no import inputs, their prices being tied to the type of exchange. On the other hand, industrial activities developed in an atmosphere of protection and subsidies, with very little international competitiveness and with a strong dependence on inputs, capital goods and technologies obtained from abroad and had practically no involvement in the export flow.²

The scarcity of foreign currency for financing the sustained development of the country and the particular deficit position of the industrial sector in the balance of payments were two of the elements that determined the search for alternative styles of development to overcome

¹Noteworthy among these are Braun and Joy (1968), Díaz-Alejandro (1965) and Canitrot (1975).

²This simplified and static view of the industrial sector has been raised again in Katz and Kosacoff (1988).

these restrictions. In addition to other variables—such as an increase in the stagnating primary-production sector—the search for greater competitiveness in the industrial sector occupied a central place. The successes achieved during the occupation of the markets in the substitutive model showed, on the one hand, signs of exhaustion and, on the other hand, their inability to overcome the scarcity of foreign currency. In this sense, between 1978 and 1981, export promotion and monetaristic policies entered the Argentine scene.

The policies of export promotion began in the 1960s, the starting point of a combination of financial profits, tax exemptions and incentives which was designed to increase the foreign sales of the so-called "non-traditional" export industries, producers of manufactured goods whose basis of support does not lie in the industrialization of agricultural and livestock inputs. Designed for the purpose of reducing the negative foreign-currency balance, overcoming the restrictions imposed by the reduced size of the domestic market and generating an atmosphere of greater competitiveness, the policies of export promotion were based on taking advantage of the maturing trajectory of a great variety of enterprises and activities that were successful in substitutive industrialization and in the granting of strong incentives that would enable companies to operate abroad. The results were very promising. While at the beginning of the 1960s these "non-traditional" industries had practically no effect on exports, a decade later their foreign sales were in excess of US\$1 billion, that is to say, one quarter of all exports. In addition, exports of technology, consulting services, engineering works and even direct investments made by industrial firms, chiefly in the Latin American area, began to become common.³

In late 1978 a set of economic policy instruments based on the monetary approach to the balance of payments came to be applied. With a basic objective of anti-inflationary policy, Argentina articulated the opening of the markets—the real market and the capital

market—of the economy with the reforms of the financial system and the pre-announced fixing of the type of exchange, which ended unsuccessfully in 1981.⁴ This failure interrupted the prior evolutionary trajectory of the industrial sector, generating the problem of foreign indebtedness and foreign exchange in opposite directions in the industrial structure.

Subsequently, conditions apparently similar to those of the earlier semi-closed model of the Argentine economy were created again. However, the profound changes on the international scene—the effects of the "third technological revolution", the increase in protectionism, agricultural subsidies, etc.—were combined with those encountered on the local scene (foreign debt, the loss of sources of financing for the government, etc.), so that the problems of industrial exports came to be organized on an even more hierarchical basis.

The purpose of this study is to quantify industrial exports during the period from 1973 to 1986 and to analyse their economic behaviour. The export phenomenon is nothing more than a manifestation of the potentialities and limitations of the industrial structure. Accordingly, the behaviour of exports will be evaluated in the context that has been assumed by the recent process of industrialization in Argentina. The period being analysed starts from the first successes achieved by the policies of export promotion, based on the advantages gained in the substitution process, and covers the changes arising in the industrial structure during the period of the monetarist policy. A study of the profound changes in export flows will make it possible to evaluate the new conditions of development of Argentina's industrialization and to analyse more satisfactorily the forms this process may take in the future.

Within the framework of this programme, a questionnaire was sent to 341 companies, representing almost 80% of industrial exports

³In this connection, see, among others, Katz and Ablin (1977) and ECLAC/EUDEBA (1985).

⁴For an analysis of the period, see, among others, Sourrouille, Kosacoff and Lucangeli (1985), Kosacoff (1984), Khavisse and Azpiázú (1983) and Schvarzer (1976).

for 1984; we have reprocessed the data on exports according to the criteria of the International Standard Industrial Classification (ISIC) for the series 1973-1986, and we have drawn up a series of basic documents related to central

aspects of these problems (evaluation and analysis of the cost of promotional régimes, the importance of technological aspects, analysis of the destination of exports, performance of the oil industry, etc.⁵

I

Importance of the foreign market as the destination of national production

In 1986 the coefficient of exports in the Argentine economy, that is to say, the quotient obtained by dividing the value of exports by the gross value of production, amounted to 5%, a level slightly higher than the average for the period 1973-1986 (4.89%). This series shows the lowest coefficients in the years 1975 and 1980 (3%) and the maximum value in 1983,⁶ when it reached 6.56%.

When this coefficient is broken down according to sectors of economic activity, we find, in the first place, that except for the agricultural and stock-raising sector and the industrial sector,⁷ the other economic activities are oriented exclusively towards the domestic market. Some exports are found only in the

exploitation of mines and quarries, but in any case, the average value of these over the period 1973-1986 does not amount to 1% of mine and quarry output.

When the analysis is centred on the agricultural and stock-raising sector and the industrial sector, we find, from the standpoint of the importance of the domestic market as the destination for production, that there is a structural component which determines the model of development and the functioning of the Argentine economy.

While the agricultural and stock-raising sector exported slightly more than 20% of its output during the period 1973-1986, the industrial sector marketed only 8% of sectoral output to foreign countries. These very different percentages reflect another difference which is no less significant. In the first case, thanks to the impetus given by the agricultural subsector, we find a particular export dynamism of the agricultural and stock-raising sector, and hence an increasing gravitation towards foreign markets. In contrast, the industrialized sector is characterized by a failure to make any major changes in its export vocation during the period under study. Without attempting to go more deeply into the subject of the export vocation of the agricultural sector, we should point out that the decisive factor for this dynamism is that supply, after more than 40 years of stagnation, was finally increased; since domestic demand was already being fully satisfied and did not increase, this made possible a substantial increase in the amounts exported. The rise of new crops—in particular, oilseed crops, many of them rotatable—the technological improvements in mechanization and hybrids

⁵The most important publications include: ECLAC, Buenos Aires Office, *Desarrollo industrial y exportaciones de manufacturas* ("Industrial Development and Exports of Manufactured Goods"), Working Paper No. 22, 1986; INDEC/ECLAC, *Exportaciones industriales. Perfil y comportamiento de las empresas exportadoras de manufacturas* ("Industrial exports. Profile and behaviour of companies exporting manufactured goods"), Study No. 6, Buenos Aires, 1987; ECLAC, Buenos Aires Office, *Industrialización y exportación de manufacturas en la Argentina. Evolución estructural y apertura exportadora (1973-1986)* ("Industrialization and export of manufactured goods in Argentina. Structural evolution and export opening (1973-1986)"), to be published in *Boletín Techint*.

⁶This excludes the statistical value obtained for the year 1985 (12.3%), since it is not considered representative, owing to the distortions resulting from the combination of a multiplicity of factors that seriously affected the estimates for the gross value of production at current prices.

⁷We are using the International Standard Industrial Classification of All Economic Activities (ISIC, Rev.2). The foreign-trade data compiled by INDEC were, for their part, reprocessed and regrouped on the basis of a compatibilization of the classification on which the information relating to exports is structured (NADE) with the classification corresponding to production data (ISIC). See Cavanna *et al.* (1986).

and the slow but significant advances in the use of agricultural chemicals, as well as the expansion of the agricultural frontier as a result of the shift of the stock-raising areas to less productive land, are some of the elements responsible for the increase in production, and therefore for the export of grains.⁸ This situation clearly shows the decisive importance of the changes in production structure as determining factors of Argentina's new position in the international markets (table 1).

1. *Export opening of the manufacturing industry*

The export coefficient of the industrial sector was 9.4% in 1986, slightly higher than the average value for the period 1973-1986.

This overall indicator conceals large differences between different parts of the sector. In

actuality, the importance of the foreign market as the destination for the output of the industries whose basic inputs come from the agricultural and stock-raising sector (manufactures of agricultural and stock-raising origin, MAO) differs substantially from the corresponding value for manufactures of industrial origin (MIO), to such a point that the export coefficient of the former (18.7%) is 3.8 times that of the latter (4.9%).

Within these two major groupings, in turn, we find marked differences between the various industrial groups included in them (four digits of the ISIC).⁹ With respect to MAO activities, consisting of 23 groups of manufactures, there are only seven groups whose export coefficients are higher than 10% (table 2), while in seven other cases the value is less than 1%.

With regard to the MIO groups — a total of 52 — we find that nine of them have a coefficient higher than 10%, while 15 industrial branches export less than 1% of their output.

⁸In this connection the reader may consult, among others, Obschatko and Piñeiro (1986).

⁹The configuration of the subsets is defined in ECLAC (1986a).

Table 1

EXPORT COEFFICIENTS^a ACCORDING TO SECTORS OF ECONOMIC ACTIVITY, 1973-1986

(Percentages)

	Agriculture, hunting, forestry and fishing	Exploitation of mines and quarries	Manufacturing industries	Electricity, gas and water	Construction and services	Total
1973	13.41	0.72	8.46	-	-	4.95
1974	16.12	1.15	6.85	-	-	4.37
1975	16.57	0.50	4.55	-	-	3.05
1976	23.64	0.64	8.01	-	-	5.38
1977	26.94	0.65	9.36	-	-	6.03
1978	25.23	0.77	8.91	-	-	5.39
1979	18.79	0.40	6.92	-	-	4.10
1980	15.71	0.57	5.72	-	-	3.06
1981	24.80	0.50	7.38	-	-	4.22
1982	21.03	0.38	9.89	0.15	-	5.61
1983	31.27	0.39	9.39	-	-	6.56
1984	23.83	0.28	9.37	0.01	-	5.64
1985 ^b	43.84	2.43	13.11	0.37	-	12.33
1986	22.20	0.76	9.42	-	-	5.27
Average, excluding 1985	21.50	0.59	8.02	0.01	-	4.89

^aValue of exports in Argentine currency divided by the gross value of production.

^bSee note 6.

Table 2

EXPORT COEFFICIENTS IN RELATION TO
THE GROSS VALUE OF EXPORTS, 1986*(Number of industrial groups by
ranks of coefficients)*

Industrial groups	Export coefficient (per cent)				Total
	-1	1 to 5	5 to 10	+ 10	
MAO	7	5	4	7	23
MIO	15	21	7	9	52
Total	22	26	11	16	75

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

These results clearly show the export orientation of the local industrial spectrum. The Argentine manufacturing sector has developed only 16 industrial groups in which the foreign market absorbs more than 10% of the output, while almost two thirds of industrial activities are oriented almost exclusively towards the domestic market, since they export less than 5% of their output.

An additional and much more illustrative perspective is found when we integrate into our analysis the production and the export quantities generated in each of the different industrial groups. If we arrange the set of industrial branches in accordance with their respective export coefficients, we find their relative impact on the total output of the sector and on industrial exports (table 3).

These conclusions unquestionably turn out to be much more significant than those observed in connection with the mere number of industrial groups. Two thirds of Argentina's industrial production is generated in groups which send less than 5% of their output to foreign markets. In contrast, those industrial groups which market more than 10% of their output in the foreign market account for less than one fifth of the locally produced supply.

From the standpoint of the concentration of exports according to the rank of the export coefficient of each industrial group, we find a distribution very different from the one reflected in terms of the relative contribution to the sector's production. The industrial groups with the highest export coefficients account for a significant share of total industrial exports, even though

their share in production is relatively low. On the other hand, those industrial groups whose export coefficients are less than 10%, in which 80% of industrial output is concentrated, contribute only one fourth of the exports of manufactured goods. This means that 73.4% of industrial exports originates in groups with coefficients higher than 10%, and more than half of this percentage (47%) is generated by activities with a marked orientation towards the foreign market (those in which the export coefficient is higher than 50% of the gross value of production).

2. Structural heterogeneity

The above comments enable us to formulate some important general conclusions. On the one hand, we must consider the heterogeneity of the various groups of industries with regard to their orientation towards the foreign market. While exports account for a larger share of total production in the activities of the MAO groups than in those of the MIO groups, we also find that both groupings include a large number of industrial groups oriented almost exclusively towards the domestic market. On the other hand, we find an asymmetric relationship linked to the existence of a small number of industrial groups which account for a smaller share of industrial production but which, having high export coefficients, represent a significant share of the total of manufactured exports.

Table 3

CONCENTRATION OF PRODUCTION AND
INDUSTRIAL EXPORTS ACCORDING TO
RANKS OF EXPORT COEFFICIENTS, 1986*(Number of industrial groups and percentages)*

Rank of the export coefficient	Number of industrial groups	Relative share of	
		Production	Exports
More than 50.1	5	4.0	47.0
Between 30.1 and 50	3	0.8	3.0
Between 10.1 and 30	8	14.3	23.4
Between 5.1 and 10	11	15.8	14.3
Less than 5.0	48	65.1	12.3
Total	75	100.0	100.0

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

This last subset, consisting of only 16 industrial groups, provides a satisfactory analytical framework to complement and expand the foregoing comments. To that end, table 4 shows, for each of these 16 groups, the information concerning the type of manufactured goods involved and concerning the consequent relative share of industrial exports, arranged in the order of the export coefficients of the different groups.

In spite of the similarity between the number of groups in the MIO⁹ and MAO⁷ categories that make up this subset of sectors oriented more towards foreign markets, their relative share of total exports are substantially different. In fact, the seven MAO groups alone account for more than half of total exports (57.7%) and about 80% of the exports of this subset.

The seven activities included in the MAO category reflect a scheme of industrialization of raw materials that in the majority of cases

reveals comparative advantages at the international level which, as such, are reproduced in their first phases of processing and therefore account for this export behaviour. Within this framework, for example, we may distinguish the oil industry and the leather industry, which, apart from having high coefficients, play a leading role with regard to their contribution to the total value of exports.

In the preceding section the marked export orientation of some MAO groups was associated with the comparative advantages arising from the nature of their main raw material. However, this seems to be a necessary but not sufficient condition, since production in certain activities whose conditions seem to be similar is directed almost exclusively to the domestic market. This is true in the case of the dairy industry, which exported only 2.1% of its output, or the grape and wine industry, which exports only 0.9%. In

Table 4

ARRANGEMENT OF INDUSTRIAL GROUPS ACCORDING TO THEIR EXPORT COEFFICIENTS, 1986

(Percentages)

ISIC group	Designation	Origin	Export coefficient	Share of exports ^a
3115	Manufacture of vegetable and animal oils and fats	MAO	89.8 ^b	30.9
3841	Ship building and repairing	MIO	70.9	1.8
3825	Manufacture office, computing and accounting machinery	MIO	67.6	2.5
3231	Tanneries and leather finishing	MAO	61.4 ^b	8.0
3824	Other industrial machinery	MIO	45.0	1.0
3113	Canning and preserving of fruits and vegetables	MAO	32.3	1.9
3233	Manufacture of products of leather and leather substitutes, except footwear and wearing apparel	MAO	30.6	0.1
3720	Non-ferrous metal basic industries	MIO	25.2	2.9
3511	Manufacture of basic industrial chemicals except fertilizers	MIO	21.2	4.5
3851	Manufacture of professional and scientific, and measuring and controlling equipment not elsewhere specified	MIO	18.8	0.3
3829	Machinery and equipment except electrical not elsewhere specified	MIO	16.3	1.4
3116	Grain products mill	MAO	15.2	2.0
3822	Manufacture of agricultural machinery and equipment	MIO	15.2	0.6
3529	Manufacture of chemical products not elsewhere specified	MIO	14.1	1.2
3111	Slaughtering, preparing and preserving meat	MAO	10.3	10.9
3114	Canning, preserving and processing of fish, crustacea and similar foods	MAO	^c	3.9

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

^aShare calculated on the basis of the total amount of industrial exports valued in Australes.

^bThe coefficient of these activities relates to the year 1984, owing to the fact that the information for 1985 and 1986 is not sufficiently coherent.

^cThe coefficient of this activity could not be estimated, owing to problems with the basic information, but their value too is well over 10%.

Table 5

**ENTERPRISES EXPORTING MANUFACTURED GOODS OF INDUSTRIAL ORIGIN
WITH A VALUE GREATER THAN US\$10 MILLION, 1984**

Export coefficient	Branch of activity	Main product exported
1. Less than 25%		
Y.P.F	Oil refinery	Fuel oil
Petroquímica Bahía Blanca	Processing of various petroleum and coal products	Ethylene
Esso	Petroleum refinery	Coke
Saab Scania	Manufacture and assembly of automobiles	Trucks
Ford Motor	Manufacture and assembly of automobiles	Automobiles
Sevel	Manufacture and assembly of automobiles	Automobiles
Renault	Manufacture and assembly of automobiles	Automobiles
Fiat	Manufacture and assembly of automobiles	Trucks
Acindar	Iron and steel basic industries	Wire
Aluar	Non-ferrous metal basic industries	Aluminium
D.G.F.M.	Manufacture of weapons and other products	Brass sections
Hughes Tool	Construction and repair of machinery and equipment for industry	Drills
2. More than 25%		
Petroquímica General Mosconi	Industrial chemicals	Benzene
Polisur	Processing of petroleum and coal derivatives	Low-density polyethylene
Pasa Petroquímica Argentina S.A.	Processing of petroleum and coal derivatives	Rubber S.B.R
Unitan	Manufacture of leathers of all kinds	Quebracho extract
F.I.F.A.	Manufacture of chemical products not elsewhere classified	X-ray plates
Lepetit	Manufacture of medicines and pharmaceutical products	Medical products
Copetro	Processing of various petroleum and coal derivatives	Calcined coal
Destilerías Argentinas de Petróleo	Petroleum refineries	Fuel oil
Boroquímica	Manufacture of basic chemicals	Borax
Indunor	Manufacture of leathers of all kinds	Quebracho extract
I.B.M. Argentina	Manufacture of office, computing and accounting machinery	Printers
Dalmine Siderca	Iron and steel basic industries	Seamless tubing
Propulsora Siderúrgica	Iron and steel basic industries	Steel casings
Refinerías de Metales Uboldi	Non-ferrous metal basic industries	Aluminium casings
Alto Paraná S.A.	Manufacture of paper pulp	Paper pulp
Astilleros Alianza	Ship building and repairing	Ships

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

the complex of products associated with leather, we find the same phenomenon; moreover, this tends to be accentuated as the total value assumed for each production phase increases. Indeed, while tanneries exported almost all of their output, the footwear industry exported only 5.9%.

With regard to MIO activities, we should include at the outset a warning associated with the fact that the level of aggregation of the information in terms of industrial groups includes a number of submarkets, which in many

cases have very different export orientations. Merely for purposes of illustration, the group of iron and steel basic industries includes both the production of round steel sections for construction and the manufacture of seamless steel tubing, even though the two products have very different orientations with respect to the international market. Similarly, each submarket includes enterprises whose behaviour and export possibilities are markedly different.

This last reference takes on a leading role in the explanation of some of the highest export

coefficients, where the behaviour of one firm or a small number of firms with a solid export base determines the existence of such a coefficient. This suggests that if we attempt to interpret export behaviour, we must in many cases study the behaviour of these enterprises rather than the industrial activity in which they are engaged. Typical situations of this kind are found in the manufacture of computer printers, in aluminium, in seamless steel tubing (as part of the iron and steel industry), in some petrochemical products, etc.

Lastly, we should also draw attention to the existence of relatively high export coefficients in some metalmechanical sectors, activities in which Argentina has developed a number of comparative advantages, in particular with regard to manufacturing in short and flexible series with a high skilled-labour content. Among these activities we should emphasize some types of industrial machinery and apparatus, both mechanical and electrical, professional and scientific equipment, etc. (table 5).

II

The composition of industrial exports in 1986

An initial view of the overall framework in which we consider the sectoral trajectory and composition of manufactured exports is given by their impact on the country's total foreign sales. To that end, table 6 shows the evolution of Argentine exports, in current dollars, broken down according to the most important large sectors of activity that generated them. This also enables us to verify that in spite of the persistent recovery occurring during the last three years, the share represented by industrial exports in total exports for the year 1986 (66%) is lower than the value for 1973 (67.2%) (table 6).

One of the essential characteristics of the profile of manufactured exports is the marked specialization of these exports and the existence of a small nucleus of activities that account for almost all foreign sales. At a higher level of disaggregation—the industrial subgroup, five digits of ISIC Rev. 2— this phenomenon becomes even more marked. Indeed, more than three fourths of industrial exports for the year 1986 is concentrated in only 11 activities, out of a total of 172 industrial subgroups (table 7).

The differentiation of exported manufactured goods according to their sectoral origin is particularly important, not only because it gives us a better characterization of the profile of these exports but also because of its implications from the standpoint of the productive linkages implicit in this, the consequent effect on employ-

ment, the capturing and transfer of sales associated with international trade, the degree of dependence on imported inputs and on primary production, etc.

On the basis of the classification of all the industrial groups as MAO or MIO, depending on the predominant type of manufacturing, we can see (table 8) that the former represent about two thirds of the value of total exports for 1986. The share represented by MAO is almost double the share represented by MIO, even though with regard to the number of industrial groups in each category the ratio is the reverse.

An initial analysis of the different producer and exporter groups in the MAO category reveals in this case—just as at the overall level—a very high degree of concentration of exports. It is sufficient to point out that the five most important industrial subgroups contribute more than 85% of MAO exports, with a clear preponderance of the oils and fats category, which is enough by itself to account for almost half of this total. This marked degree of concentration is thus due to a small number of activities whose production processes, in general, involve a very small incorporation of aggregate value and a limited diffusing effect (employment, productive linkages), although, at the same time, they presuppose a highly positive foreign-currency balance, in view of the low impact of imported inputs.

Table 6

COMPOSITION OF EXPORTS ACCORDING TO SECTORS OF ACTIVITY 1973-1986

(Percentages and millions of current US dollars)

Year	Agriculture, hunting and fishing	Manufacturing industries	Mines and quarries	Other	Total	
					Percentage	Millions of US dollars
1973	32.04	67.20	0.20	0.56	100	3 266.0
1974	39.54	59.10	0.39	0.47	100	3 930.7
1975	44.25	54.95	0.31	0.48	100	2 961.3
1976	38.37	60.28	0.20	1.35	100	3 916.0
1977	37.34	60.40	0.16	2.04	100	5 651.8
1978	35.99	61.09	0.32	2.60	100	6 399.5
1979	36.40	61.23	0.24	2.13	100	7 809.9
1980	34.69	63.27	0.42	1.62	100	8 021.4
1981	43.41	55.09	0.30	1.15	100	9 143.0
1982	37.81	63.16	0.20	1.19	100	7 624.9
1983	46.26	53.37	0.24	0.13	100	7 835.0
1984	43.18	56.20	0.18	0.25	100	8 107.0
1985	40.09	58.46	1.03	0.42	100	8 396.0
1986	33.47	65.99	0.52	0.02	100	6 852.2

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

Table 7

MAIN INDUSTRIAL SUBGROUPS OF ORIGIN OF THE
EXPORTS OF MANUFACTURED GOODS, 1986

ISIC	Industrial subgroup	Millions of US dollars	Percentage
31151	Processing and refining of vegetable oils and fats	1 406.5	31.1
31111	Slaughtering of livestock, preparation and preservation of meats	485.2	10.7
32312	Tanneries	334.1	7.4
37100	Iron and steel basic industries	324.0	7.2
31140	Processing of fish, molluscs, crustaceans and similar foods	172.3	3.8
35119	Basic industrial chemicals not elsewhere specified	155.3	3.4
35300	Petroelum refineries	127.5	2.8
37200	Non-ferrous metal basic industries	108.4	2.4
38251	Manufacture of office, computing and accounting machinery	106.1	2.3
38410	Ship building and repairing	88.6	2.0
31132	Processing and shipping of fruits, horticultural products and vegetables	85.0	1.9
	Subtotal for 11 subgroups	3 393.1	75.0
	All other industrial subgroups (161)	1 128.7	25.0
	Total	4 521.9	100.0

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

Table 8

**COMPOSITION OF INDUSTRIAL EXPORTS
ACCORDING TO TYPES OF MANUFACTURE, 1986**

*(Absolute values, millions of dollars
and percentages)*

Groups	Number of industrial groups	Exports	
		Millions of US\$	Percentage
Manufactured goods of agricultural and stock-raising origin (MAO)	24	2 924.3	66.67
Manufactured goods of industrial origin (MIO)	57	1 597.6	33.33
Total	81	4 521.9	100.00

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

In the case of MIO, the five most important subgroups taken together contribute slightly over 50% of the total—the corresponding share for MAO was 85%—and recently, with the inclusion of the exports derived from nine industrial subgroups, it has amounted to more than two thirds of the total.

From the analysis of the nine MIO production subgroups that make the most significant contribution to exports, we find, in the first place, the leading role played by some industries that produce intermediate inputs, such as the basic metal industries (ferrous and non-ferrous), the sector of industrial chemicals, petroleum

refineries and some other chemical industries. Within this framework, the combined amount of intermediate products produced and marketed abroad by five of the nine main exporting subgroups represents nearly 50% of total MIO exports.

In the second place, we observe the decisive presence of some subgroups whose exports may be characterized as dependent on the economic situation, or simply on circumstances in general, since they are caused by the contraction of the domestic market (most of those mentioned earlier) or are the result of bilateral agreements of a strictly limited nature (the case of ship building).

In the third place, we can clearly see the importance taken on by trade "negotiated" as part of bilateral or multilateral agreements, as well as trade carried on within the captive framework of certain transnational enterprises as a function of the process of integration and/or productive complementation on a world-wide scale or of the distribution of market areas among their various subsidiaries (office and accounting machines and motor vehicles).

Another feature of MIO exports, at least with respect to the majority of the main industrial subgroups that generate them, consists in their marked polarization towards a very small nucleus of enterprises. This obviously is not unrelated to the actual conformation of the productive structure of these branches; a common feature of these is a high degree of oligopolization, which is even greater with regard to sales to foreign countries.

III

Changes in the sectoral composition of industrial exports

During the period under analysis there was a series of important changes in the sectoral composition of Argentina's industrial exports. However, the changes that took place have not altered one of the defining characteristics of manufactured-goods exports, namely, their high degree of specialization in a small number of industrial groups, which actually determine the magnitude of this trade flow. In the year 1973,

among the 81 industrial groups, there were only 16 that contributed more than 1% of total exports, and these 16, taken together, accounted for 87% of exports. In 1986 there were only 17 groups contributing more than 1%, and they accounted for 88.4% of the total.

Within the framework of this very limited degree of diversification of exports, there have nevertheless been a number of significant

changes in their composition. A breakdown of total exports into the nine industrial divisions involved enables us to obtain an initial characterization of their sectoral structure.

In the first place, the industrialization of foodstuffs, beverages and tobacco products can be seen to be the most significant grouping: during the period 1973-1986 it accounted for 52.5% of industrial exports.

On the other hand, three of the divisions have not gone above a 1% share of industrial exports in any of the years considered. These divisions are the wood and furniture industry, the production of non-metallic minerals and the miscellaneous-industries division.

Some industries which produce intermediate goods, such as the chemical industry and, to a lesser extent, the metal basic industries, account for a growing share of industrial exports. In contrast, in spite of the slight recovery recorded during the last three years, metalmechanical production has fallen in rank, to the point where, after a peak share of 27.5% in 1975, it has represented little more than 10% of the total during the last few years. Lastly, the division of textiles, ready-to-wear clothing and leather has accounted during this period for somewhat more than 10% of the exports of the industrial sector.

An aggregated presentation of these data provides us only with a very general interpretive view, since it does not give a precise idea of the changes that have taken place during the period. This is why a more detailed breakdown is needed (table 9).

1. *The traditional industries*

It has already been mentioned that the division of foodstuffs, beverages and tobacco accounted for a high percentage of total industrial exports. In reality its contribution is closely associated with vegetable-oil producers and meat packers, which account for more than three fourths of food sales to foreign countries. The trajectory of these sales shows an important change in the contribution of each of these activities to exports. In this respect the shares represented by meat and oils thus exhibit a "countercurrent" behaviour, which in a sense is complementary, not because of their functionality but because of their capacity to generate foreign currency. During the period 1973-1979 the meat-packing

industry represents, on average, 25% of industrial exports; its share reaches a maximum of almost 40% in 1973 and drops to 12.4% in the five years between 1982 and 1986 (table 9). The situation of the international demand, strongly influenced by the policies of the European Economic Community, both with regard to import restrictions and with regard to subsidies for the export of basic commodities, plays a decisive role in this decline in the share accounted for by meat exports. Even though domestic consumption levels have remained as high as before, the meat-packing industry today has a large amount of unused capacity, a number of plants have been closed, indebtedness is growing, employment has been severely reduced, and there is a general deterioration in production.¹⁰

The oil industry, for its part, shows a totally opposite behaviour, both in production and in exports. Between 1973 and 1976 it accounts for 11% of the value of industrial exports, a share which rises to 15% between 1977 and 1982 and continues to grow with great vigour, so that it exceeds 30% of the total between 1983 and 1986. Whereas oil exports brought in US\$234 million in 1973, in 1986 the value was in excess of US\$1.4 billion, representing almost one third of the exports of industrial products. The increase in Argentina's production of oilseeds, a raw material vital for processing, served as the basis for this export dynamism. Supplementing this agricultural development, there was a consolidation in local industrial production, and a substantial percentage consisted of national enterprises, which in turn supplemented the small number of transnational enterprises linked to the international marketing of grains (Feldman, 1985). Similarly, during the past decades there has been a significant amount of investment, which has made possible the modernization, expansion and opening of industrial plants with international state-of-the-art technology, most of them situated near the areas of production and the ports of embarkation for their international marketing. It has likewise been reflected in the construction of infrastructure installations for the storage and transport of raw materials and finished products (INDEC-ECLAC, 1987).

¹⁰In this connection, see, among others, Cavadini and Sarachu (1986).

Table 9
SHARE OF REPRESENTATIVE GROUPS IN THE TOTAL OF MANUFACTURED-GOODS EXPORTS, 1973-1986
(Percentages)

Group	Designation	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
3	Manufacturing	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
311	Food manufacturing	61.70	54.09	48.69	51.73	53.22	48.65	53.68	49.30	45.04	44.04	56.01	55.87	44.80	51.05
3111	Slaughtering, preparing and preserving meat	39.45	20.43	18.93	24.01	20.69	23.11	28.48	21.67	20.90	17.71	15.38	9.87	8.16	10.74
3115	Manufacture of vegetable and animal oils and fats	10.76	11.06	10.57	11.85	17.30	14.96	15.84	15.16	12.54	15.72	25.40	33.95	29.54	31.26
321	Manufacture of textiles	4.71	3.40	6.00	7.06	7.40	8.53	4.61	5.94	4.31	4.43	3.29	4.41	4.94	3.66
3211	Spinning, weaving and finishing textiles	4.56	3.26	5.89	6.87	7.10	8.20	4.52	5.89	4.23	4.31	3.17	4.29	4.78	3.36
323	Leather	4.98	4.12	4.10	6.32	6.32	7.44	10.30	7.70	7.62	6.50	6.48	6.51	6.20	8.00
3231	Tanneries and leather finishing	4.67	3.73	3.81	5.63	5.43	6.40	8.90	6.11	6.70	5.92	6.13	6.38	5.96	7.63
3232	Fur dressing and dyeing industries	0.05	0.11	0.10	0.38	0.57	0.60	0.98	1.26	0.81	0.53	0.30	0.10	0.21	0.32
3233	Manufacture of products of leather and leather substitutes	0.26	0.28	0.18	0.29	0.31	0.43	0.41	0.32	0.10	0.04	0.04	0.03	0.03	0.05
3240	Footwear	0.97	1.25	0.32	0.29	0.66	0.55	0.19	0.05	0.05	0.13	0.12	0.05	0.05	0.19
351	Manufacture of industrial chemicals	2.92	4.39	4.19	4.10	3.66	3.50	3.47	4.40	4.75	5.48	6.28	5.58	6.72	6.09
3511	Manufacture of basic industrial chemicals except fertilizers	2.00	3.01	3.77	3.75	3.08	3.03	2.99	3.93	4.24	4.54	4.67	4.05	5.23	4.50
3513	Manufacture of synthetic resins plastic materials man-made fibres except glass	0.85	1.31	0.35	0.30	0.49	0.40	0.40	0.40	0.46	0.90	1.56	1.47	1.39	1.41
3529	Manufacture of chemical products not elsewhere specified	0.67	0.82	0.94	0.72	0.71	0.81	0.98	1.66	1.24	0.81	1.39	1.19	0.80	1.15
3530	Petroleum refineries	0.12	0.21	0.10	0.44	0.42	0.74	0.67	5.22	12.18	10.86	7.25	6.82	10.76	2.82
3710	Iron and steel basic industries	5.08	5.69	1.36	3.77	2.37	5.60	4.14	2.84	5.41	6.91	4.54	4.02	6.95	7.17
3720	Non-ferrous metal basic industries	0.25	0.27	0.03	0.19	0.21	0.52	1.21	2.76	2.63	2.17	1.99	1.99	2.60	2.40
382	Machinery and equipment except electrical not elsewhere specified	6.19	8.28	13.47	7.86	6.54	6.80	5.94	6.26	5.62	7.52	4.11	4.04	4.95	5.49
3821	Manufacture of engines and turbines	0.38	0.54	0.70	0.32	0.28	0.62	0.20	0.52	0.21	0.23	0.22	0.06	0.007	0.10
3822	Manufacture of agricultural machinery and equipment	1.00	1.72	2.53	1.18	0.71	0.92	0.90	0.34	0.27	0.75	0.04	0.09	0.15	0.61
3825	Manufacture of office, computing and accounting machinery	1.50	1.81	3.32	1.82	1.32	1.11	1.07	1.25	1.96	2.04	1.82	1.85	2.38	2.36
383	Manufacture of electrical machinery, apparatus, appliances and supplies	1.42	1.92	2.15	1.47	1.22	1.54	1.45	1.28	1.01	0.88	0.68	0.72	1.14	1.07
3832	Manufacture of radio, television and communication equipment and apparatus	0.66	0.72	0.62	0.53	0.29	0.42	0.63	0.30	0.24	0.18	0.19	0.22	0.05	0.15
384	Manufacture of transport equipment	4.36	5.86	9.11	7.97	6.29	4.80	3.16	3.25	2.39	3.16	2.19	3.85	4.11	4.56
3841	Ship building and repairing	0.05	0.04	0.69	0.83	0.17	0.24	0.15	0.46	0.93	0.27	0.55	1.60	1.94	1.96
3842	Manufacture of railroad and equipment	-1	0.07	0.54	0.95	1.39	0.62	0.18	0.13	0.01	-1	0.01	0.05	0.02	0.02
3843	Manufacture of motor vehicles	4.29	5.72	7.85	6.15	4.69	3.92	2.73	2.58	1.34	1.91	1.61	2.18	2.11	2.57

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office, on the basis of data from INDEC.

In addition to the "countercurrent" behaviour of the oil and meat-packing sectors, the various groupings of foodstuffs, beverages and tobacco exhibit rather different trajectories. Thus, the shares represented by products of the fishing industry has increased from less than 1% during the period 1973-1981 to 3.4% during the five years between 1982 and 1986. At the same time, the dairy industry's share, which was 1.7% between 1973 and 1978—reaching a maximum of 2.8% in 1976—drops to an average of 0.7% in 1979-1986. There are also categories whose behaviour remains stable, such as coffee, tea and mate (1 to 1.5%) and milled products (2 to 3%).

The exports of the sugar industry exhibit sharp ups and downs, resulting from changes in international market conditions and in the quotas allowed. This activity generated an average of 4% of the exports, a figure which conceals very wide fluctuations, ranging from 12.6% in 1974 to less than 0.6% during the past two years.

Lastly, attention should be given to a large group of activities which have a slight or non-existent share of foreign sales. In no year of the series did any of the remaining eight industrial groups of the food complex exceed 1% of industrial exports (tobacco and alcoholic beverages; non-alcoholic beverages; beer and malt; wines and cider; balanced foodstuffs; cacao and confectionery products; and baked goods).

Among the exports of the grouping consisting of textiles, ready-to-wear clothing and leather goods, 90% was accounted for by two groups: the group of yarns, fabrics and finished clothing (essentially yarns and washed wool) and the group of leather tanning. The exports of yarns and fabrics—with an average share of about 5% of the total between 1973 and 1986—has had a cyclic behaviour similar to that of the entire grouping and goes far towards explaining the overall performance of the textile sector. On the other hand, in the leather sector the internal behaviour is more heterogeneous. The exports of products requiring a higher degree of processing tend to decrease in importance in comparison with those of tannery products. Indeed, exports of shoes, which during the six years from 1973 to 1978 represented 0.7% of the total, with a maximum value of 1.3% in 1974, now show a marked decrease, to the point where in 1979-1986 the average value was only 0.1%. At the same time, the share represented by semi-

finished leather exports, which in the three years from 1973 to 1975 amounted to 4% of exports, increased to a little over 10% in 1979 and then stabilized at about 6 to 7%. The figures in absolute values speak for themselves. In 1986 leather exports accounted for nearly US\$350 million, while the footwear industry's exports amounted to barely US\$8.8 million.

2. *Industries producing industrial inputs*

We have already mentioned the particular and dynamic behaviour of the chemical complex. Indeed, the chemical industry increased its share from 6.8% of the total exports of manufactured goods during the period between 1973 and 1979 to 16.8% during the period from 1980 to 1986. This behaviour is accounted for solely by petrochemical plants and the refining of fuels derived from petroleum. Petrochemical plants have doubled their share of industrial exports in recent years, while the refineries, which until 1979 had represented less than 0.5% of foreign sales, increased their share to 8.8% during the six years from 1980 to 1985, dropping to 2.8% during the last year.

The explanation of this growth can be found in an analysis of two crucial aspects: the situation of the domestic market and the maturing of some investment projects in the industrial sector. Thus, the export behaviour of the chemical industry is based in large measure on the critical evolution of the Argentine domestic market, which has been characterized by permanent drops in levels of activity. In the case of continuous-process industries the foreign market emerges as an anticyclical alternative, since it serves as an outlet for surpluses not sold in the domestic market. In turn, near the end of the 1970s we see the start of the operative phase of a series of large plants producing widely used industrial inputs, which had been planned at the beginning of the decade on the assumption that the rates of growth of demand observed during the 1960s would be maintained. This extension of the process of import substitution to cover several activities which produced intermediate goods was confronted, at the moment when it went into operation, by a local market that was much smaller than the one originally planned, and added to this were serious lags in the timing

of several connected projects. Similarly, the production of fuels, which was aimed at self-sufficiency, encountered a reduced domestic demand, and as a result, not only was this initial objective satisfied but, in addition, considerable surpluses were left over for export (ECLAC, 1986b).

Basic metal industries have also substantially increased their share of industrial exports. Such a process is observed most particularly from 1978 on. Up to that point we should recognize two clearly differentiated subperiods: the two years from 1973 to 1974, during which such industries contributed more than 5% of industrial exports, and the three years from 1975 to 1977, during which governmental restrictions on the foreign sale of products that could be used for the iron and steel industry helped to bring about a decrease in the impact of basic metal industries to a figure of the order of 2.6%. The exports of this branch increased to almost 6% of the industry's total during the three years from 1978 to 1980, almost 8% between 1981 and 1984 and almost 10% during the two years from 1985 to 1986. The explanation of this growing importance is not very different from the explanation given for the petrochemical sector. The entry into operation of new plants, especially for the manufacture of aluminium, which resulted from the restructuring of the iron and steel industry, and the low level of local demand were responsible for the exports of intermediate products with a low degree of processing, marketed in practice as "commodities" in a competitive international market, where the prevailing price levels were much lower than those in the local market.

3. *The metalmechanical industries*

Very different from these is the behaviour of the output of metal products, machinery and equipment. After continued losses in importance in comparison with other industrial exports, the sector shows a slight recovery during the last three years. Whereas during the period between 1973 and 1978 its share amounted to 18.2%, with a maximum of 27.5% in 1975, the share between 1979 and 1986 amounts only to 10.9%, notwithstanding the systematic recovery observed during the last four years (7.7% in 1983 and 12.1% in 1986). The phenomenon is common to almost all the groups making up this

grouping. The occasional and negotiated exports of the shipbuilding industry and the dynamic export behaviour of a few enterprises (IBM, Hughes Tool, Saab Scania, Volkswagen, Ford Motor, etc.) may be viewed as exceptions—and delaying factors—to the decrease in the metal-mechanical complex.¹¹

This decrease in the share represented by the metalmechanical sector emerges as a logical result of the process of de-industrialization that characterizes the performance of Argentine industry. The subsidies and reimbursements to the exports of the sector, which enabled it to assume the leadership role in foreign sales, were not associated with a transformation and modernization of its productive base. On the contrary, as a result of the implementation policies that decreased the incentives for industrial activity, investment proved to be insignificant, research and development teams were disbanded, and the country found itself bypassed by the international technological revolution in the industrial organization of these production processes (Katz, 1988; Nochteff, 1984).

To sum up, during the period from 1973 to 1986 there have been a number of changes in the sectoral composition of industrial exports. At the level of foodstuffs production, which is the activity with the greatest relative weight, special importance attaches to the regression of the meat-packing industry and, in the opposite direction, the behaviour of the oil industry. Similarly, in recent years there has been a greater share accounted for by exports originating in the industries that manufacture intermediate products, where the foreign market generally operates as an anticyclical outlet to compensate for the low levels of domestic demand. In contrast, a substantial part of the limitations of the recent model of Argentine industrialization has been evidenced in the loss of positions by the metal-mechanical complex and by the industries with the greatest capacity for generating aggregate value. These changes have taken place in a permanent context of low-degree sectoral diversification of industrial exports, which, in any case, are generated essentially by a small number of enterprises.

¹¹The exports of these firms are to be viewed as part of the framework of strategies for the international division of labour within the major corporations of which they are a part.

IV

The real evolution of exports of manufactured goods

The rigorous analysis of the behaviour of industrial exports over more than a decade requires, first of all, establishing the true trajectory they have followed, and to do this, we must subject the figures to adjustments which will correct the effects of changes in international prices.

The deflator or price indicator used for this purpose depends on the phenomenon whose hierarchy we wish to describe. This is why in the present study we have decided to consider two distinct factors used for conversion to homogeneous units: i) the United States Wholesale Price Index, regarded as a "representative" indicator of international inflation and tending to reflect the "purchasing power" of Argentina's industrial exports; and ii) The Unit Value Index in dollars (base: 1970 = 100) of Argentine exports, prepared by ECLAC for a wide range of industrial goods.¹² In this last case, the results obtained tend to denote the sectoral evolution of the physical volume of production which is oriented towards foreign markets.

The results will differ substantially, depending on which indicator is used. This fact is even more valid during the past decade, in view of the fact that these years have seen profound changes and readjustments in the structure of relative prices prevailing in the international markets. These phenomena bring on changes of greater or lesser importance and of a highly diverse nature in the real value of the foreign sales made by the countries which export manufactured goods; the scope and direction of these changes will depend on the composition of foreign sales and on the trajectory of their respective unit values.

The figures in table 10, which show the annual evolution of the exports of Argentine manufactured goods, expressed in current dol-

lars, demonstrate the different effects derived from the indicator used to homogenize them. Whereas the real "purchasing power" of industrial exports was reduced by 6.4% at the end of a decade and a half, the "physical volume" exported is found to have increased by more than 80%.

The gap in the behaviour of the two series becomes particularly wide during the present decade. Thus, during the subperiod from 1973 to 1980 the real "purchasing power" of industrial exports increased by 17.1%, while the "physical volume" increased by 24%. Between 1980 and 1986, on the other hand, while the volume exported increased by slightly over 45%, the purchasing power of the exports decreased by 20%. In other words, in order to preserve during the period from 1980 to 1986 the "purchasing power" that industrial exports had during the initial year, the "physical volume" of these exports —with identical structural composition— would have had to be increased by almost 83%.

1. "Export effort" and "purchasing power" depending on sectors of origin

The comparative analysis of the trajectory of the "purchasing power" and the "export effort" exhibited by the different industrial activities that make up the productive spectrum of the sector enables us to identify the industries in which we find the most intensive contrasts —in other words, the sectors which have undergone the greatest disturbances in their relative prices at the international level. Table 11 reflects the form taken between 1973 and 1986 by the evolution of the exports of the nine industrial divisions.

The foodstuffs industry is seen to be the only industrial division in which we find a "counter-current" behaviour between the physical volume exported (an increase of almost 77%) and the resulting purchasing power (a drop of the order of 22%). In other activities the difference is manifested only in terms of relative intensity.

¹²This index was prepared by the ECLAC Buenos Aires Office within the framework of the programme on "Information and short-term analysis of the Argentine economy". These are indices obtained according to the Paasche formula, that is to say, with variable weights. In contrast, the United States Wholesale Price Index has a fixed product composition (the Laspeyres formula).

Table 10

EVOLUTION OF INDUSTRIAL EXPORTS AT CURRENT AND CONSTANT VALUES, 1973-1986

(Millions of current US dollars; index, base 1973 = 100)

Years	Current values	Constant values			
		1973 ^a		1984 ^b	
		Millions of US dollars	Index	Millions of US dollars	Index
1973	2 171.7	2 171.7	100.0	5 002.2	100.0
1974	2 342.9	1 935.8	89.1	4 536.4	90.7
1975	1 627.9	1 563.5	72.0	2 883.7	57.6
1976	2 360.6	2 480.5	114.2	4 000.3	80.0
1977	3 417.4	3 217.7	148.2	5 454.6	109.8
1978	3 909.8	3 662.6	168.7	5 791.9	115.8
1979	4 782.7	3 187.2	146.8	6 300.5	126.0
1980	5 075.4	2 692.7	124.0	5 857.1	117.1
1981	5 037.4	2 614.7	120.4	5 328.3	106.5
1982	4 816.4	3 050.1	140.5	4 993.8	99.8
1983	4 182.0	3 180.4	146.5	4 282.2	85.6
1984	4 571.8	3 219.5	148.3	4 571.8	91.4
1985	4 908.0	3 815.4	175.7	4 929.2	98.5
1986	4 521.9	3 931.1	181.0	4 680.0	93.6
Cumulative annual rate (per cent)	5.8	4.7		-0.5	

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office on the basis of data furnished by INDEC and by the United States Department of Commerce.

^aIn 1973 dollars, deflated in accordance with the index of unit value of exports according to type of goods, prepared by ECLAC.

^bIn 1984 dollars, according to the United States Wholesale Price Index.

Table 11

INDICES OF PURCHASING POWER AND EXPORT EFFORT IMPLICIT IN FOREIGN SALES ACCORDING TO INDUSTRIAL DIVISION OF ORIGIN, 1986

(Base, 1973 = 100)

	I Purchasing power 1973 = 100	II Export effort 1973 = 100	III = II/I
Foodstuffs, beverages and tobacco	78.2	176.6	2.26
Textiles, ready-to-wear clothing and leather	104.0	206.1	1.98
Wood and furniture	457.3	675.4	1.48
Paper, printing and publications	61.5	54.1	0.88
Chemical industries	209.6	373.6	1.78
Non-metallic minerals	107.1	158.4	1.48
Metal basic industries	167.5	268.8	1.60
Metal products, machinery and equipment	85.5	88.2	1.03
Other manufacturing industries	40.3	59.6	1.48
Total for all industries	93.6	181.8	1.94

Source: Data prepared by the Industrial Development Area of the ECLAC Buenos Aires Office.

Thus, in five divisions the improvement in the "purchasing power" of exports is associated with the exertion of a much greater export effort. On the other hand, in two industrial divisions (that of metal products, machinery and equipment and that of other manufacturing industries) the reduction in the physical volume exported results in a greater deterioration in purchasing power. Lastly, only in one industrial division—the paper industry, which accounts for barely 1% of total exports—has the drop in physical volume been greater than the drop in purchasing power.

To sum up, in all the industrial divisions, with a single exception, the rate of increase (or decrease) in the export effort is always higher (lower) than its effect in terms of implicit purchasing power. In other words, whatever industrial division we are considering, the trajectory of unit export prices is lower than the trajectory of United States wholesale prices.

This phenomenon of general deterioration in unit export prices is manifested in highly diverse forms in the various industrial activities. Along this line, the relationship between the increase (decrease) in export effort and the corresponding increase (decrease) in purchasing power merely reflects the intensity that this phenomenon assumes in the various industries. On this analytical basis, the only two divisions that reveal a difference—a deterioration in relative prices—greater than the result at the global level are precisely those industries which are most important in terms of their relative contribution to the total of manufactured-goods exports: the industry of foodstuffs, beverages and tobacco and the industry of textiles, ready-to-wear clothing and leather.

It is in these industries that we find most sharply demarcated the fact that there will not necessarily be a correspondence between the intensity of the export effort and the results. Thus, a significant export movement, such as may be presumed from an average annual increase of more than 5%, proved insufficient to compensate for the deterioration experienced in international prices.

By reason of its implications and the magnitude of the values involved, we should emphasize the case of the foodstuffs industry. This expanded its physical volume of exports by almost 80%, which implies a little more than

US\$1 billion, at 1973 prices. Nevertheless, the "purchasing power" of these sales to foreign countries decreased by approximately US\$700 million in 1984. Thus it is evident that the changes made in the relative price structure of the world economy have had an especially heavy impact on food products, and hence on those countries for which foods constitute the main category of exports, as is the case with Argentina.

Even the oil industry, which has come to be an easy leader in the country's export profile, is affected by this dichotomy. In fact, between 1983 and 1986 the physical volume of its exports increased by a factor of 7.2, while the purchasing power of those exports was less than tripled.

Even though the magnitude of the values involved is very different from the preceding example, identical considerations are found in the case of textile industries. The increase in the physical volume exported implies an average rate of 5.7% per year, but the resultant improvement in purchasing power is insignificant. In this case, doubling the physical volume of exports (an increase of 106.1%) was enough only to keep the purchasing power derived from them practically constant (a gain of 4.0%).

This is the reason for the conclusion that the considerable export effort exerted by most of the groups included in the food industry¹³ and the textile industry (17 of the 22 groups increased the physical volume of their exports) resulted in a drop in the implicit purchasing power (seven groups) or an increase in purchasing power much smaller than the increase in physical

¹³One of the most striking characteristics of international trade from 1980 to today consists in the persistent deterioration of the prices of most basic products, especially those which directly or indirectly, through their local industrial processing, take on a leading role in Argentina's export profile. Simply as an illustration, and on the basis of information published by UNCTAD in its *Monthly Bulletin of Basic Commodity Prices*, we note the following evolution of some commodities:

Years	Beef U.S. cents/ lb.	Maize US\$/ ton	Wheat, US\$/ ton	Sugar, U.S. cents/ lb.	Soy beans, US\$/ ton
1980	125.87	210.3	206	28.86	296
1981	112.15	181.0	191	16.89	288
1982	108.39	137.4	167	8.41	245
1983	110.72	162.4	140	8.46	282
1984	102.57	167.3	136	5.20	282
1985	97.40	135.1	111	3.79	228
1986	95.00	111.1	89	6.05	208

volume (nine groups). The relative international prices of the industrial activity that is omitted (fishing), as well as of the dairy industry, the only one of the five in which we find a reduction both in the physical volume of exports and in the implicit purchasing power, exhibit a certain degree of recovery between 1973 and 1986.

Apart from the examples relating to the industries which contribute the largest share of the export profile, there is a series of groupings and branches of industry in which we also find clear divergences between the evolution of the physical volume and the trajectory of the "purchasing power" of their exports. Three cases that deserve mention are: i) basic chemicals, for which the physical exports multiplied almost fivefold but the implicit purchasing power was barely doubled; ii) the iron and steel industry,

whose export effort increased at an average cumulative rate of 6.5% per year while its "purchasing power" increased at an average rate only slightly over 2% per year; iii) the transport-materials industry, in which a virtual stagnation in the physical volume of exports (an increase of barely 0.8%) is matched by a drop equivalent to 0.2% per year in the implicit "purchasing power". These results are, strictly speaking, based on two opposite types of behaviour. On the one hand we have the shipbuilding industry, whose exports increased at an average rate of more than 30% per year, with the two indicators agreeing. On the other hand, we have the automobile industry, whose physical volume of exports has shrunk at an annual rate of slightly more than 4%, while its "purchasing power" is dropping at a slightly higher rate (4.3% cumulative annual rate).

V

Some final considerations

The study of the trajectory and composition of the exports of manufactured goods during the period between 1973 and 1986 enables us to draw a series of useful conclusions. Taken together, they help us to obtain a better characterization of the profile of external sales, the principal patterns of behaviour, the consequent modifications in the composition and, summing up, those aspects which must be interpreted as an indispensable prerequisite for the design and formulation of policies that affect their future behaviour.

The quantitative data corroborate the orientation of Argentina's industrial production primarily towards the domestic market. Its opening towards exports has not changed substantially in recent years, unlike what happened in the agricultural and stock-raising sector, which, in addition to contributing a larger share of the exports sent to foreign markets, has shown greater dynamism, thanks to its agricultural subsector.

In contrast, industry inhibits a heterogeneous pattern with regard to its share of exports. On the one hand, we note the greater importance of

MAO activities in comparison with MIO activities. On the other hand, only a small number of activities have gained a significant share of foreign markets, in a context of industrial activities which cater almost exclusively to domestic demand. This last fact became evident when we quantified the high percentage of industrial production that is generated in the activities with a reduced opening towards exports and, asymmetrically, the high concentration of exports in a small number of industrial groups that exhibit high export coefficients.

Similarly, although during the past few years there has been no substantial change in the export orientation of the industrial sector, there have been important changes in the structure of its sales to foreign countries. Within the MAO groups we find the special export dynamics of the oil industry, in contrast with the sharp loss of foreign markets suffered by the meat-packing industry. While within the MIO groups we observe a drop in the metalmechanical complex, foreign markets take on a growing importance for some industries that manufacture widely used intermediate products. These have been

established in recent years on the basis of market forecasts more optimistic than the eventual facts justified, and as a result they have begun to export their output, in response to the stagnation in domestic demand. Likewise, attention should be given to the strong impact of some firms which are decisive in the export conduct of various industrial groups and in the total value of exports.

The recessive context in which the world economy has been developing since the mid-1970s and the growing proliferation of restrictive trade practices constitute two of the central elements found on the international scene during the period under analysis. It is in this framework that we must view the slowdown in the international flow of goods, which had a particularly heavy impact on the flows of manufactured goods originating in some of the countries where industrialization has been late in coming. This fact is also reproduced in the Argentine example, in which this loss of dynamism is so severe that the increase found in exports at current values between 1973 and 1986 (5.4% per year) has proved insufficient to compensate for international inflation. Thus, evaluated in 1984 dollars, the exports of manufactured goods are *decreasing* at an average cumulative rate of 0.4% per year.

This decrease in the "purchasing power" that is implied by the foreign sales of industrial goods is in sharp contrast with the trajectory of physical exports, which increased more than 80% between 1973 and 1986. This phenomenon becomes particularly marked during the 1980s and reflects the profound changes occurring in the structure of relative prices prevailing in world trade.

The interaction between the relative deterioration of the international prices of primary commodities and the decisive influence of the various processing industries on the sectoral profile of the country's industrial exports has proved to be a key factor. In fact, it explains why an increase of more than 80% in physical volume was insufficient to preserve the "purchasing power" of the exports of manufactured goods.¹⁴

¹⁴During the present decade this severe deterioration in export prices associated with the country's growing foreign indebtedness has become a highly damaging limitation on the growth of the Argentine economy.

We must also consider the alterations that have taken place in the structure of industrial exports: in the field of MAO exports, the increase in oil and the drop in frozen meats; in the field of MIO exports, the reduction in metal-mechanical products of high aggregate value and their increasing replacement by widely used industrial inputs. These phenomena gave rise to changes of great importance in the destination of Argentina's foreign sales. Thus we see a significant drop in the share represented by Latin American countries (both for MAO and for MIO) and an increasing impact of the United States market (essentially MIO) and the Asian and Soviet markets.¹⁵

We cannot ignore the fact that at the end of the last decade and a half we have seen profound alterations in the profile of manufactured-goods exports. Nevertheless, their magnitude and intensity are not sufficient to change one of the essential characteristics of this profile: the fact that it is not highly diversified—in other words, that it is highly concentrated in a very small number of industrial activities.

The same thing is happening with regard to its configuration in terms of enterprises, where we again see a significant concentration of exports in a very small number of firms.¹⁶ One structural aspect consists in the fact that transnational enterprises represent only a small share of Argentina's export flow, that is to say, they account for one fifth of the total, a value less than their relative share of industrial output.¹⁷ The

¹⁵In many of these cases this presupposes going from a position of "profitable" sales to a situation of "price-takers". See ECLAC, Buenos Aires Office, *Destino de las exportaciones argentinas de manufacturas, 1973-1983* ("Destination of Argentine exports of manufactured goods, 1973-1983"), Industrial Development Area, July 1986b (mimeo).

¹⁶About four fifths of industrial exports are generated by some 200 firms. If the analysis is restricted to the information obtained from a questionnaire sent to the principal exporting firms—which, taken together, account for 76.9% of industrial sales abroad in 1984—we find that 29 of them generate more than half of the total value of exports (INDEC-ECLAC, 1987).

¹⁷At the same time when they were established in the country, one of the arguments cited in their favour was that they would promote the dissemination of technical progress in the local sphere. However, their preferential orientation towards the domestic market and their technological "lag" on the international scene explain why they have such a weak position in world markets.

exports of these enterprises consist chiefly of sales made to associated firms established in other countries, as is the case with the exports of computing and office machinery, parts and pieces for motor vehicles, petroleum equipment, etc. (ECLAC 1985; INDEC-ECLAC, 1987).

In the current debate on the possibilities of expansion of the Argentine economy, it is believed that increasing the country's industrial exports constitutes an urgent imperative for overcoming the restrictions imposed by the external imbalance, as well as for recovery of the level of activity and employment, and even for modernization of the productive apparatus.

At this level, there are wide areas of agreement. However, in practice there is no quantification of the potentialities existing in the present industrial structure for greater dynamism in its export behaviour. In a recent study (ECLAC, 1986a) it is estimated that a repetition of the best performances reached in some year of the period from 1973 to 1986 in each of the activities would require doubling the exports made in 1986.

Historically, however, the maximum export values attained in many industrial branches have tended to coincide with the periods of most decided support for the export of manufactured goods. Consequently it is probable that a repetition of such successes would require, as a necessary but not sufficient condition, the application of the various mechanisms of income transfer (Bisang, 1986) to export enterprises, by means of reimbursements, financial subsidies or increased domestic prices, depending on the type of exchange, so as to compensate the profitabil-

ity equation of these firms (INDEC-ECLAC, 1987, especially section 6). The use of each of these mechanisms will certainly encounter fiscal restrictions; similarly, the possible gain in foreign currency will have a social cost. On the other hand, it must be borne in mind that several of the groups which in some years made decisive contributions to foreign sales are now imposing serious limitations, either because of changes in international demand or because of the erratic nature of domestic supply. This is the case of the meat-packing and sugar industries, various metalmechanical branches, etc.

The foregoing reflections sound a note of caution with respect to the validity of those hypotheses which formulate the hierarchy for the application of trade-promotion mechanisms dissociated from the obvious changes that have taken place in the conditions of production supply.

Such changes make it evident that we must determine those activities in which the country is capable of achieving a sustained increase in its export flow. The definition of a new industrial profile and the design of a sectoral policy which will channel private investment in that direction constitute the framework in which the promotion of exports can generate the conditions necessary for overcoming current inadequacies.

Giving due regard to the current budget restrictions, the choice of those activities in which it would be feasible to gain advantages and allocate resources more efficiently, redefining the country's position in the world trade in manufactured goods, constitutes one of the greatest challenges to Argentine society today.

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Rural social policy in a strategy of sustained development

*John Durston**

This article discusses the changes observed during recent years in the social, demographic and occupational fields in the rural world, which, when they are added to the centuries-old problems of the sector, foreshadow severe imbalances in the context of the new modalities of functioning of Latin American economies that arise from the present crisis. It advances the thesis that in most of the countries of the region the solution of the problem of the peasantry and the achievement of a higher degree of equity in rural society, as well as between the rural and urban societies, constitute inescapable imperatives for any viable strategy of national development in the 1990s.

The author outlines the essential features of a strategy of growth with rural equity, and it analyses some alternative lines of social policy for the sector. He attaches special importance to the realization of the peasant economy's productive potential through the supply of inputs, the introduction of structural reforms and the provision of the necessary training—both technical training and training for participation in decision-making. Lastly, he emphasizes the importance of the peasantry's role in the expansion of the domestic market as part of a viable strategy for national development.

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Introduction

The profound economic upheavals of recent years appear to have changed radically—and perhaps forever—the social dynamics that prevailed for decades in the rural environment. This requires a change in the rules of the game that govern the design of social policy for this sector.

In most countries we find an essential inadequacy in the development model followed in the region before the crisis. Until the end of the 1970s it seemed that the high rate of creation of new productive occupations in non-agricultural activities, which had made possible the upward social mobility from the poor rural social strata, would continue indefinitely. Nowadays it appears difficult to regain this dynamism, and in some countries it appears almost impossible (ECLAC, 1986a).

The processes of economic, demographic and cultural transition that were operating in the rural world—with the consequent modifications in the articulation of this world with urban society and the urban economy—formed a key link of this supposedly virtuous circle of development prior to the crisis. In similar fashion, a profound revision of the definition of the role to be played by the rural economy and rural society in national development now seems to constitute a key element for the creation of viable styles of development for the majority of Latin American countries at the end of the twentieth century.

In a document which summarizes ECLAC's diagnoses and recommendations, it is stated that the transformation of the agrarian structure is the point of departure for attaining "a minimum threshold of equity" in a social context that will help to bring about productive modernization and genuine international competitiveness (ECLAC, 1988, p. 45).

In this article it is postulated that the historical inability to solve the problem of rural poverty and inequity constitutes a limiting influence of the first rank on the development of many countries of the region. Consequently any alternative strategy designed to restore the growth rates of earlier years must face the challenge posed by rural poverty. This imperative is all the more evident if the strategy in question is intended to take advantage of the unrealized productive potential of the popular strata and the possibilities offered by an expansion of the domestic market.

I

The challenge of the coming years

In almost all of the countries of Latin America the processes of technification, capitalization and integration of rural economies that took place before the crisis transformed and modernized the structures and mechanisms for extraction and exclusion to which the peasant strata had traditionally been subjected (Durston, 1982). However, they did not bring any significant advances in the distribution of income and assets within the rural population, nor between the rural and the urban populations.

The economic crisis of the 1980s "rendered doubtful the viability of a dynamism that supposedly would reduce the active agricultural population through training and absorption in productive employment in other sectors" (ECLAC, 1988, p. 56). Conspiring against the resurgence of this dynamism are the persistence of long-standing problems and the appearance of previously unknown difficulties associated with the economic situation created by the crisis and the adjustment, which, in combination, severely limit prospects for the creation of future jobs.

1. *Long-standing problems that remain unsolved*

The result of agricultural development based on capitalization concentrated in the entrepreneurial sector was that the peasant population (consisting of small landowners cultivating farms which were becoming increasingly fragmented) and the landless agricultural workers fell further behind. The survival of both these groups depended increasingly on the opportunities for paid seasonal work in entrepreneurial agriculture, and their advancement depended on the exodus to the cities and on the dynamics of urban labour markets. In this structural context the vegetative growth rate of the rural population, which continues to remain much higher than that of the urban population, was decreasing very slowly.

The bias in agricultural policy in favour of the capitalist agricultural sector and the

mechanisms of extraction had aggravated in most countries the vicious circle of social reproduction of poverty in rural areas. To the extent that peasants were denied access to land and to other forms of capital, the only productive resource over which they could exert any control continued to be the manpower of their children.

At the same time, neither the small family holdings nor the highly mechanized capitalist agriculture could absorb the increasingly numerous cohorts of young people who were reaching the age of economic activity in rural areas. Between 1950 and 1980 the average annual rate of growth of the population engaged in agriculture failed to reach even 1% (table 1). Furthermore, this rate was slowing down, gradually approaching zero, and in some countries the agricultural population decreased in absolute numbers as well as in percentage.

If the social situation in the rural areas did not become even more critical during the period from 1950 to 1980, part of the reason was that jobs in the sectors of greatest productivity—industry, trade and services—actually increased at high and growing rates, until they exceeded an average value of 5% per year, during the 1970s. This was reflected in some

Table 1

LATIN AMERICA: AVERAGE RATES OF ANNUAL GROWTH OF THE POPULATION EMPLOYED IN AGRICULTURE AND OF AGRICULTURAL OUTPUT

	1950- 1960	1960- 1970	1970- 1980	1980- 1987
1. Population employed in agriculture	0.8	0.7	0.3	1.7 ^a
2. Agricultural output	3.7	3.5	3.7	2.4

Source: ECLAC, on the basis of official information.

^aPreliminary estimates made by PREALC, on the basis of official information from seven countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico and Venezuela).

upward social mobility for many members of the labour force who had become superfluous in the rural areas.

The vigorous process of job creation in the urban sector required heavy investment and a high and stable rate of output growth. In terms of five-year averages, the latter remained above 5% per year throughout the period from 1950 to 1980. However, towards the end of the 1970s many countries had already completed the "easy phase" of their development, and there were clear symptoms indicating that the sources which had fed this process of occupational transformation were becoming exhausted.

In any event, between 1950 and 1980 tens of millions of persons of rural origin succeeded in establishing themselves in non-agricultural jobs. It is true that many of these former peasants and children of peasants continued to suffer exploitation and poverty, in the formal sector of wage-earning manual workers or in the informal urban sector. However, it is probable that in general the workers concerned regarded this change as a step forward, when they compared their new reality to what they would have had to continue to endure on their small farms or as agricultural day-labourers.

The traditional development model, being incapable of eliminating the causes of peasant poverty, depended on these high rates of new job creation in the modern non-agricultural sector to continue absorbing a poor rural population which was increasing at a very rapid rate. The subsequent loss of productive dynamism in the 1980s and the coming of the urban job crisis put an end to this mobility, abruptly frustrating the expectations of the new rural generations. It has therefore become more imperative to find in the rural environment itself a solution for the shortages from which the rural strata of the population are suffering.

2. The recent worsening of the rural social deficit

With the collapse of urban labour markets during the early years of the crisis, the vegetative growth of the rural labour force and the movement of rural-urban migrants back to the countryside had to be absorbed by the "residual" occupational sector —the peasantry— or by

entrepreneurial agriculture. In a number of countries of the region agricultural employment expanded more rapidly than non-agricultural employment during this period (PREALC, 1986). Consequently, according to PREALC, the population employed in agriculture increased by almost 13% in seven years (1980-1987), while during the preceding 10 years it had increased less than 3%.

During the mid-1980s the region's export agriculture, and to a lesser degree its agricultural sector raising products for national consumption, expanded rapidly, although this positive effect was somewhat dampened by the weakening of demand, both domestic and foreign, and by the rising cost of credit (ECLAC-FAO, 1987). However, the increased supply of rural manpower in most countries of the region led to a reduction in farm wages (PREALC, 1986) and of income per active worker on small farms (ECLAC, 1987a, p. 16). The increase in agricultural output seems to have benefited chiefly the agricultural entrepreneurs, so that the inequity prevailing in the countryside became even worse.

Moreover, the restriction of tax expenditures was reflected in a deterioration of the supply of health, educational and housing services, as well as in an impairment of investments in infrastructure, development promotion and other modalities for the social redistribution of income. This aggravated the deficit being suffered by the majority of people in rural areas. Such a twofold lag (in monetary income and in social income) of the rural (and urban) majorities accentuates the reduction in domestic demand and becomes a source of tension that places additional demands on the design of a national development project, requiring it to win support from the great majority of the population.

3. New economic and demographic parameters of rural social change

The predictions made by experts agree that in the medium term the rates of growth of worldwide demand for agricultural exports, of the generation of jobs in the "modern" non-agricultural sector and, lastly, of the supply of

capital and credit for agriculture will all be much lower than in earlier years. In contrast, the rate of growth of the agricultural labour force is increasing, which is a reversal of a decades-long trend (table 1). In the short term this foreshadows a drop in per capita rural income and a greater sectoral concentration of income to the advantage of asset holders. Since, apart from this, it is improbable that there will be an accelerated drop in the vegetative growth of the poor strata in rural areas, it may also be asserted that there will be continuing pressure on social services, especially with regard to maternal and child care and to basic education.

The severity of the present situation and of the forecast for the medium term vary with each

country's current stage of the demographic and occupational transition (table 2). This twofold process, which almost always accompanies economic development, involves a central stage during which chiefly agrarian societies, with high birth rates and death rates, become predominantly urban-industrial and service societies, with relatively low and stable birth rates and death rates. Most of the Latin American countries passed through the central part of this transition at an accelerated rate during the three decades preceding the onset of the crisis (ECLAC, 1986a).

The implications of this transition for the current growth of the labour force vary considerably from one type of country to another. In those that make up Group I (table 2), where the death rate and birth rate became stabilized long ago at relatively low values, the pressure on the labour market is increasing nowadays at a moderate rate. But in those countries where the rate of demographic growth reached its maximum during the last decade (Group II), the population of working age is still continuing to expand at a very rapid rate (of the order of 3% per year), higher than the rate of increase of the total population. Furthermore, in a number of countries in which the demographic transition is still in its early stages (Group III), this rate will continue increasing for a long time. The reason for this is that the rate of growth of the population of working age depends not only on births during the preceding years but also on variations in the death rate, which is still high in the countries of this group and probably will continue to decrease steadily for two or three decades. Consequently, according to the forecasts made by CELADE, in 1990 the economically active population will be 9% greater in Uruguay and 15% greater in Argentina, than in 1980. The economically active population in the countries with recent or incipient transition, on the other hand, will increase between 30% and 45%.

In the overwhelming majority of Latin American countries the gross national product per capita decreased during the period from 1980 to 1987 (ECLAC, 1987b). In countries with incipient demographic and occupational transition, the average drop was 18%. Since the rate of growth of their population of economically

Table 2

**CHANGES IN THE GROWTH OF THE
POPULATION OF
ACTIVE AGE^a**

	Period of maximum growth and rate attained	Average annual rate (per cent) for 1980-1985
I. Countries with advanced demographic transition		
Uruguay	pre-1950 (...)	0.7
Argentina	pre-1950 (...)	1.2
Chile	1975-80 (2.6)	2.3
II. Countries with recent transition		
Brazil	1965-80 (3.1)	2.6
Colombia	1965-70 (3.4)	2.9
Panama	1975-80 (3.7)	3.1
Peru	1975-80 (3.2)	3.1
Costa Rica	1975-80 (4.3)	3.2
Dominican Republic	1975-80 (3.6)	3.3
Venezuela	1970-75 (4.4)	3.4
Ecuador	1980-85 (3.5)	3.5
Mexico	1980-85 (3.6)	3.6
III. Countries with incipient transition		
Honduras	1980-85 (4.0)	4.0
Paraguay	1975-80 (4.1)	3.7
Nicaragua	Future (...)	3.6
Guatemala	Future (...)	2.8
Bolivia	Future (...)	2.6
Haiti	Future (...)	2.2

Source: ECLAC, *Statistical Yearbook*, 1987.

^aPopulation between 15 and 64 years of age.

active age not only is high but, in several of these countries, will continue to increase, it becomes difficult, in the absence of fundamental transformations in the type of development now prevailing, to imagine any easing of the shortage of productive jobs.

The most devastating consequence for millions of peasant homes will be the death of their hopes of upward social mobility for their children. Remaining permanently in agriculture, as the refuge of last resort, represents a subjective loss for the workers affected, in addition to an objective loss, since it means giving up aspirations that have become deeply rooted, unless the countries of the region introduce reforms that will substantially improve the income of persons who are active in agriculture.

These new parameters represent for many Latin American countries a major challenge to reformulate their social and employment policies for the 1990s. It is imperative to achieve a sharp increase, especially in the rural environment, of the rate of generation of productive jobs and to improve living conditions and the availability of social services, with a view to potentiating human resources that are being poorly utilized at present. Only if an attack is made at the roots of the social problems and imbalances that have for so long afflicted the majority of the people living in rural areas —maladjustments which would otherwise tend to become aggravated in the future— will it be possible to attain styles of development that are viable in the medium and long term.

II

Essence of a strategy for achieving rural equity

1. *Rural development and global strategy*

The problems and social processes in urban and rural environments are closely interconnected. Any policy for rural development must therefore be constructed within the context of an overall strategy that will have majority support, for the country as a whole. In most Latin American nations the social crisis involves two fundamental shortages: a lack of adequately productive occupations, which is the main cause of the insufficiency of incomes needed to cover basic needs, and a low degree of participation by the popular strata in a collective project for national development. It is the rural popular strata that both of these shortages continue to be most sharply felt (ECLAC, 1985). For this reason, in the proposals made by ECLAC for dealing with the crisis, a prominent place is occupied by the strengthening and expansion of the national market and the attainment of a broad political consensus in favour of a national development plan, centred on increased productive capacity and increased demand in broad sectors of society that have been marginalized until now (ECLAC, 1988, pp. 25, 28 and 41).

With regard to the crisis in the creation of productive jobs, an analysis of current trends suggests that in the next decade the superfluous labour force will be absorbed not only by low-productivity services but also by agriculture, as the "residual" or "last refuge" sector. There is also evidence (apart from what may be concluded from the inflection in the rates of growth of agricultural employment during the years of the crisis) to indicate that migration from the countryside to the cities is sensitive to the changes in the differential between urban and rural wages. The exodus increases when this differential becomes greater, and vice versa (Commander and Peek, 1983).

The manifestations of the productive-job crisis which are observed in rural areas form part of an urgent overall problem. It is therefore essential to decide on emergency measures aimed both at the creation of temporary employment on a large scale and at the provision of social services —medical care, nutrition, basic education— that will complement the incomes of poor families. Beyond the immediate economic situation, the persistence of a rural popular sector which includes more than one third of the total economically active population, with

very low levels of productivity, may be viewed as a great opportunity, since it makes viable an initial "easy" stage of increased productivity in activities whose capital density is very low. In principle, it is economically more efficient—and more effective in terms of the realization of a national plan for socio-political development—to increase the productivity of many workers already employed (or underemployed) in peasant agriculture, who have assets in the form of skills and experience, even though they lack capital and advanced technology, than to generate a few job vacancies in high-productivity sectors, with high costs in terms of capital and years of training for each job created.

The alternative proposals for rural development policies presented here proceed from the conviction that a marginal increase in the income of the urban popular sectors, and also in that of agricultural wage earners and of peasants, would expand the currently depressed demand for food products, since the income elasticity of demand for food is greater when the level of income is lower. Moreover, the redistribution of consumption and of assets in favour of rural popular sectors would contribute to a process of national development that is better balanced and more viable in the long term. In short, efforts to promote development through an increase in export capacity should be accompanied by other efforts aimed at expanding the current capacity for demand in the domestic market *inter alia* for agricultural and livestock products.

2. *Recipe or menu? Diversity and complexity of rural societies*

The action proposals summarized here constitute a synthesis of appraisals of Latin American rural realities, which, although they may not yet have won universal acceptance, are based on a great deal of empirical evidence. They are intended not as a "recipe" for planners but simply as a "menu" of measures of different kinds for the short, medium and long terms, selected and combined here in the light of the most probable scenarios. At the same time, the relative magnitude in each country of, for example, a rapidly growing entrepreneurial agriculture sector with permanent wage workers, a stratum of medium-sized modern farmers, a sector of impoverished

and semi-proletarianized small farmers, or any combination of these sectors, will have the result that different combinations of the aforementioned policies will be viable in different countries.

Rural societies in Latin America are at least as complex as urban societies but much less fully understood (Lacroix, 1985). It should be added that they differ much more from one another than do urban societies, both from one country to another and from one region within a country to another. The categories of large-scale cattle ranchers, owners of plantations that grow tropical or temperate-zone crops, annual or permanent crops, capitalized farmers, peasants ("viable" or "survival" farming), large and small tenants and sharecroppers and small farmers established by agrarian reforms, indigenous communities, permanent wage workers, temporary local day-labourers, migrant or urban resident workers, and so on, form only part of the picture. Census data for the 1980s reveal that a surprisingly large and growing fraction of the rural economically active population—21% in Brazil, 24% in Honduras, 36% in Ecuador, 40% in Argentina and as high as 43% in Panama—is engaged in non-agricultural activities (ECLAC, 1986a, table 25). The most common occupations of a popular character are those of manual workers (especially craftsmen, carpenters, bricklayers or construction labourers), commercial workers of various kinds, domestic servants, and transport loaders and drivers. But there is also a growing non-agricultural rural middle class consisting of professional and semi-professional workers (agronomists, teachers, etc.), wholesale merchants or representatives of enterprises selling agricultural inputs, government officials and employees of financial and commercial entities, etc.

Obviously, rural social policies must take account of the specific needs of at least the most numerous and disadvantaged groups. This situation is complicated by the accelerated transformation of productive relations in the countryside, associated with the decline of the traditional *hacienda* where large landowners imposed bonds of domination and paternalism on peons and small farmers in the vicinity, all of which has undergone an upheaval as a result of the replacement of permanent wage earners by temporary workers. This transformation also

involves the rise of modern medium-sized entrepreneurs, some of them closely linked to the urban world, who are integrating advanced technologies, credit practices, bookkeeping and management practices into agricultural production. At the same time, it must be pointed out that the "primary occupation" declared to the census taker is far from being the only one pursued by rural residents. A high percentage of rural households continue to pursue multi-occupational strategies, maintaining at the extended-family level a certain identity as "semi-proletarianized peasantry". Thus, for example, even though permanent agricultural wage earners make demands specific to their salaried condition, it is obvious that they share the peasant culture and its networks of solidarity based on family relationships and community, tending to identify with peasant interests (Llambi, 1979). In fact, a significant percentage of those who migrate to the cities do not dissociate themselves from the rural economy but allocate their savings precisely to the capitalization of their land holdings (Durston and Crivelli, 1984). Consequently an improvement in the allocation of resources or in the terms of trade of the peasantry will also benefit these workers or will motivate them to return to the family enterprise.

These are the reasons why it is advisable to make the realization of the productive potential of the peasantry, centred in the popular rural family and the local community, the keystone of a strategy for productive rural employment. In the countries with recent or incipient occupational transition, the peasantry continues to represent the bulk of the economically active population engaged in agriculture and maintains close relations of economic interdependence with the sectors of wage earners in commercial agriculture and non-agricultural manual labourers. The proposed policies aimed at these last two sectors will therefore be analysed later, in close relationship with development strategies for the peasant economy.

3. Social services in a rural social policy

The reorientation of social services in the countryside should pursue the twofold objective of redistributing both consumption and assets. In the medium term, the function of such servi-

ces is to assume the classical auxiliary role of attenuating and compensating for the most acute inequities in the distribution of monetary income. For the short term, on the other hand, their task is "to take the first steps in a strategy ... for increasing the degree of control over productive resources that is exercised by popular sectors" (ECLAC, 1988). This is aimed at increasing the available store of productive capacity that is represented by knowledge and skills, nutrition, health, etc., of the rural popular sectors in particular. The existing imbalances in the spatial distribution of social expenditure make it imperative not only to increase this expenditure but also to reorient it in favour of poor rural strata, as well as to transfer resources from those urban sectors that are in a more advantageous position, until the country reaches "the minimum threshold of equity" necessary for attaining sustained development.

Education is the social service that has expanded most in rural areas during the past several decades. In general terms, the peasant population has some access to formal basic education, although this is often limited to three or four years. On the other hand, secondary education, the key to occupational mobility in the modern economy, continues to be almost inaccessible for the majority of rural young people. In spite of the advances made, most countries continue to exhibit the enormous gap that has always existed between the average educational level of rural residents and that of people in the urban areas (ECLAC, 1986a, p. 90). What is more, as a result of the anti-rural bias often found in public expenditures, primary education is defective, which reduces its practical usefulness as an instrument for enabling students to understand the new agricultural technology or to train them for work in other sectors or for participation in civic life. There is a cruel irony in the fact that young people from the countryside who return there after completing their secondary education do not find any practical application in peasant agriculture for the "human capital" they have acquired with so much sacrifice. When they are denied access to advanced technology and to credit, they are being deprived of the chance to use education as a channel for occupational mobility without abandoning agriculture. It seems evident that what is needed is the simultaneous introduction of technology and

education. In view of the dilemma we have mentioned, perhaps the most appropriate vehicle for this will be the readaptation of secondary education to the needs of the modernization of the rural environment. The graduates of such education could become efficient promoters of technological progress, since they themselves have an interest in the success of this process.

4. Policies for the realization of rural productive potential

Various proposals for rural development agree that the small peasant family farm involves a potential for economically sustainable productivity which has until now been suppressed by the existing social structures and relationships. In many countries the peasantry produces the bulk of the supply of the basic grains consumed by the popular strata. Localized experience indicates that it could come to constitute the productive base for food-security policies and for policies designed to meet the nutritional needs of the entire population (ECLAC-FAO, 1983; Schejtman, 1987; Durston, 1983a).

There exists an extensive range of measures that can be resorted to if we want the rural economic policy to provide decisive support for the endeavour to increase production and land productivity¹ among the peasantry. The choice made in each case will depend on the combination of needs and the priority given to them, as well as on the possibilities and limitations (of the environment, of the persons involved and of the government). While it is true that needs can be identified technically, the possibilities and limitations are more closely related to competition for scarce fiscal resources. Popular participation thus becomes a key element for the successful pursuit of the political goal of achieving equity and eradicating extreme poverty in the countryside.

¹The members of the peasant family are "workers", "owners" and "entrepreneurs" at the same time. Thus they are interested not in having fewer workers with greater productivity per person but in increasing the profitability of the family farm and the income of the household. Consequently the stress should be placed on the introduction of technologies that will raise the productivity of the land, not on those which use less manpower. Training, rather than machinery, should be the key element in making manpower more productive.

Invariably the proposals for overall strategies end with a brief recognition of the importance of popular participation. In the case of rural social development, the analyses of concrete experience arrive at an almost unanimous conclusion: that the degree of popular participation in design, administration, implementation and decision-making in projects designed to benefit the rural population constitutes the most decisive factor affecting the success or failure of these efforts to raise the standard of living of the neglected rural sectors (Lacroix, 1985; ECLAC-FAO, 1985; Durston, 1983a; Thiesenhusen, 1987; and Longhurst, 1987).

For the majority of national and international planners, rural society is a sort of black box, a reality unknown to them in their personal lives, which are generally restricted to urban society. Consequently the contribution made by the beneficiaries themselves to the design and identification of activities, plans and programmes may be essential. Along the same lines, the specific local realities in terms of resources, ecological systems and needs make it impossible to anticipate from the centre of the country what will be the crucial elements for the success of policies. Popular participation in communities or microregions is essential for the adaptation of national coverage programmes to the specific realities of each locality.

On the other hand, local institutions—informal, community or family-relationship institutions—like the networks of mutual assistance that underlie them, constitute a valuable resource as instances of popular participation. This can be utilized to motivate the mobilization and articulation of peasant families in the pursuit of a joint effort.

The utilization of the potential of rural culture and informal rural institutions poses one of the greatest challenges to the application of the principles of popular participation. In general terms, specialists have overcome the age-old prejudice to the effect that rural culture would be merely an obstacle to development (the fact is that it is readapting itself on a permanent basis to an environment that is being transformed at an accelerated rate). But it is no less true that this culture contains some dysfunctional elements contrary to the objectives contemplated here—for example, the typical factionalistic and per-

sonalistic oppositions that take the shape of clientele conflicts. In this context it is not easy to promote the growth of the existing mechanisms for assistance and solidary co-ordination. However, a number of experiments throughout the region indicate that the task is feasible, given a proper socio-cultural diagnosis and a methodology carefully adapted to the immediate realities.

The spatial dispersion of rural residents makes it difficult to put development programmes into operation in this environment. The establishment of an authority for co-ordination of and by the beneficiaries at a supra-local level can make a decisive contribution to the creation of links between communities through participation in an effort that serves common interests. The relative isolation and historical autonomy of rural microregions which have sunk into dire poverty have made possible the survival of their own power structures, with forms of domination, exploitation and political bossism that constitute one of the main obstacles to rural development programmes. The promotion of popular participation both in decision-making and in programme management is an inescapable condition if we wish to avoid the blocking of initiatives or the diversion of funds to purposes which have little to do with rural development.

Popular participation also constitutes part of the solution to the problem that arises from the inertia of the institutionalized bureaucracies, both in social services and in the ministries governing the area of production. Since these usually defend their structures and methods of operation, new national programmes that are designed especially to promote innovative rural development usually have greater chances of success if they manage to combine popular participation with a structure that makes them directly responsible only to the highest political authority, with independent control over a fund of fixed expenditures, wages and investments and with supervisory faculties to oversee the governmental organizations that must be re-oriented (Lacroix, 1985).

The organization of the power of rural popular sectors to participate and to exert pressure is indispensable for the viability of structural reform proposals, particularly because peasants are usually the "weaker partners" in any combi-

nation of forces to promote a national project. While the overall strategy must rest significantly on the creation of a "capacity for organized collective action" (ECLAC, 1988), filling the currently existing gap in this field must be one of the priority challenges.

A matter of equal urgency is the elimination of the false perception that rural progress is hostile to the welfare of urban residents. Only if participation enables the rural population to increase its bargaining power and to shape its own proposals and its own alliances can society discover that equity in the rural environment is functional for the productive development of the country as a whole. In most countries the rural population is a minority, and there is no country in which it has sufficient strength to force acceptance of its demands, so that it is unrealistic to recommend a simple reassignment of consumption in favour of the rural population. Instead, the resources allocated to this sector must be regarded as an investment which will benefit the entire country, since the foreseeable result is that it will help in expanding of the productive capacity of the groups most lacking in capital and in increasing the demand for goods and services that are generated by other activities.

There already exists an extensive literature and ample experimental practice with regard to technologies capable of increasing the productivity of the peasant family enterprise. One group of such technologies consists in a knowledge of the varieties of crops, local microclimates and practices that form part of the traditional rural culture (Durston, 1983b). It is important in this context to discard completely the aforementioned concept that such a culture would constitute an obstacle to change. "Tradition is not static; it is being created every day, reconstructed every hour and negotiated socially within the home and between the home and the community to which it belongs" (Wilk, 1987).

Another group includes the "appropriate technologies", often created by modern agricultural science but with emphasis on low costs and the use of local inputs for the manufacture of simple machinery, the solution of difficulties in cultivation (lack of water, poor land and hillside land), and long-term ecological viability (Altieri, 1987). A third technological category that can benefit the rural population is the application of

state-of-the-art techniques and discoveries in biotechnology, with emphasis on the creation of lines of research which will meet the needs of small producers (Wulf, 1986; Schejtman, 1987b).

All of these lines of work have a thoroughly proven validity in practice or in scientific analysis. Hence the question is not whether or not technology can appreciably increase the productivity of peasant agriculture but rather, as always, whether or not there exists a political capacity to channel sufficient resources for this purpose. If it exists, it will be necessary to make the body of appropriate technology operational, designing methodologies for combining it with the peasant practices of each local environment, training cadres and setting up institutional systems to put such technology into practice.

Another promising field of action is that of State support for the supply of production inputs and basic consumer goods to the peasant population. In the experiments that have been successful in this sphere, the State or a non-governmental organization supports the creation of rural co-operatives and provides recoverable initial financing for rotating credit funds. This strategy is designed to overcome the prevailing limitations in access to inputs at suitable prices, which resulted from the lack of institutional channels, of scale economies and of accounting and administrative skills (Barril, 1987).

Given the fact that the problems and shortages of the peasantry are multi-faceted, it is also necessary to use an approach that will integrate and co-ordinate the various specific efforts. Integrated rural development (IRD) programmes proliferated in the region during the 1970s. The increase in such programmes was caused in large measure by the impetus given to this type of approach by the World Bank. Since little success was achieved by the traditional programmes for promoting production in agriculture and stock-raising, people are becoming aware that technical assistance to production is not enough in itself to promote rural development, let alone to bring progress towards equity and achieve the elimination of poverty. We thus find that the attainment of these objectives requires the adoption of special measures of a social nature, in combination with infrastructure and production

projects co-ordinated at the regional level so as to form an organic and coherent whole.

IRD programmes have also had little success, and this has recently led to a far-reaching re-evaluation of this approach. In fact, since the advent of the crisis of the current decade, the World Bank has not initiated any new large-scale IRD programmes. It is argued that because of the high costs of these programmes and the wide scope of their coverage, they are inappropriate at a time of financial and fiscal tightness. However, the essential principles of the integrated approach, which include complementarity of economic and social policies with a view to breaking the vicious circle of the reproduction of poverty, remain valid. The fundamental model of IRD may be viable even in situations in which capital resources are scarce, if by partially replacing them one can attain the appropriate incorporation of the skilled labour force which at present is underutilized, and if genuine popular participation can be achieved.

IRD programmes have had greater success among peasants who are economically "viable", since these people owned enough productive land acquired in earlier years and were operating in an environment which assured them a minimum of economic autonomy. However, a high percentage of the peasantry does not enjoy these two advantages; consequently it sometimes happens that the beneficiaries of IRD projects come to dominate the weaker peasants, thus increasing rural inequality (Dunham, 1983).

5. Social policy in contexts of commercial entrepreneurial agriculture

Many projects for promoting the peasant family enterprise seem to have been designed as if such an enterprise were independent of the rural power structure. In most cases, however, the peasant is at the mercy of a combination of mechanisms and strategies utilized by the regional élites. In the areas of greatest modernization, the traditional social mechanisms of extraction have also been readapted, and this has caused changes in the terms of trade confronting the peasantry that produces basic grains, in the conditions of indebtedness and in contracts with agricultural industries and with wage-earning workers (Durstun, 1982). Especially advantage-

ous for commercial agriculture is the fact that peasants "with no potential for self-sufficiency in food" have limited access to land (Schejtman, 1987b), since they constitute a source of occasional wage-earning labour, available at low cost when needed. The small farm absorbs part of the cost of reproduction of the labour force (housing and a percentage of the food required), with consequent savings to the employer. Removing this kind of obstacle obviously requires something more than simple support for peasant agriculture.

In principle, cyclic complementarity in labour between the peasantry and the entrepreneurial sector may be modified and regulated in such a way as to contribute to the advance towards equity and towards the elimination of rural poverty. To that end it is necessary, first of all, that the State should introduce changes in the structures of economic relations which will eliminate the mechanisms of exclusion and extraction, so that peasant family farming (individually or grouped into collective organizations) may realize its potential. Secondly, by establishing regulations for entrepreneurial agriculture and promoting rural trade-unionism, it is possible to bring about more equitable labour relations.

Three kinds of measures seem to be fundamental for attaining these objectives, designed to increase the productive capacity and demand among the agricultural semi-proletarians and peasant farmers in the true sense of the word. The first type of measure aims at improving agricultural wages or the pay of agricultural day-labourers in the entrepreneurial sector, which are usually much lower than the earnings of urban workers (for example, in construction work). The difference is due to several causes: that a part of the cost of reproduction of the rural labour force is absorbed by the small-farm sector, that entrepreneurs in traditional agriculture operate on very narrow profit margins, that surplus manpower is available most of the time and that wage-earners have very little bargaining power to demand better pay, especially when employers actually show a clear preference for short-term contracts. All of these causes, in turn, result from the economic and power structures prevailing in many rural areas.

The trade-union mobilization of day-labourers in particular requires support (or at least protection) from the State in order to bring about collective bargaining that is equitable in matters relating to wages. This route provides a reasonable chance of increasing the earnings of workers in the most dynamic activities in farming that produces industrial or export crops, whose profit margins are usually larger and in which the cost of manpower has little effect on the final cost of the product. The same considerations seem valid for processing and packing activities; in all of these cases, popular participation is as crucially important (although in different forms) as among the peasantry.

The second type of measure is designed to moderate the effects of the strongly cyclical nature of the demand for labour in entrepreneurial agriculture. This has become more acute with the modernization of large agricultural operations, which have substantially reduced their staff of permanent workers but have greater seasonal need for labour at harvesting and planting time. The poverty syndrome of the semi-proletarian peasants includes not only low wages but also the inadequacy of their own production during the long periods when there is no work to be had in the large modern agricultural establishments.

This situation could be improved by stabilizing the demand for agricultural manpower throughout the annual cycle —for example, by giving preference in the granting of credit to cultivation which is more permanent or which utilizes techniques that are more labour-intensive. Similarly, proposals aimed at increasing the productivity of peasant farms will help the semi-proletariat to stay above the cyclic poverty level during the months when there is no demand for wage labour. The absorption of manpower in work on peasant farms will, in turn, reduce the oversupply of day-labourers, which may force an increase in wages and, ultimately, in the genuine efficiency of the entrepreneurial sector, as opposed to the "spurious efficiency" based on the impoverishment of the labour force.

To the extent that the cycle of peasant cultivation coincides with the cycle of entrepreneurial agriculture, such an increase in employment would no doubt help to raise the standard of

living of the rural semi-proletariat, but it may make entrepreneurial agriculture more difficult at its times of maximum demand. What is needed, therefore, is to decide upon measures that will generate greater complementarity between the annual cycles of tasks in the peasant economy, on the one hand, and the demand for temporary manpower in entrepreneurial agriculture, on the other hand. In each microregional context there exists a range of alternative types of cultivation with different annual cycles, the selection and promotion of which by the State should depend on the contribution they make to complementarity in the use of the labour force.

We are not suggesting the creation of conditions that will make it impossible to maintain efficient commercial entrepreneurial agriculture. Such agriculture has had and should continue to perform a decisive role in increasing farm production. However, it is necessary to eliminate the bias favouring this type of agriculture in many countries and making itself felt in the policies that govern labour, prices and subsidies, in taxation, expenditure on infrastructure, research and extension activities, in the granting of credit, etc.; such preferential treatment constitutes unacceptable discrimination against the peasantry and the agricultural proletariat. Indeed, in some cases a fraction of the resources used to finance these direct and indirect subsidies to entrepreneurial agriculture would have been enough to promote peasant agriculture (Hewitt, 1976; Estévez, 1980; Palau, 1987). At the same time, it is essential to establish tax reforms that will levy higher taxes on the net profits earned by entrepreneurial agriculture, instead of continuing to collect the traditional social-security contribution based on the number of persons employed, which destroys the incentive for contract employment of manpower. Rigorous application of the present tax laws would suffice to bring an appreciable increase in tax collections. The additional funds could be allocated to promoting increased productivity and expanding the demand capacity of the lower-income rural strata.

6. Agrarian reform, land policy and social development

The most radical example among the policies intended to correct distortions in the relationship between entrepreneurial agriculture and peasant farming consists in expropriation and transfer of land ownership. Its application takes place in situations characterized either by the inefficient use of large expanses of productive land or by extreme concentration of land and water, with severe impairment of social welfare.

In recent years the subject of agrarian reform seems to have come to the fore again, after being practically taboo for a decade in many countries, to the point where it aroused interest only in connection with a few technical analyses of a historical nature. Recent studies and reports published by international organizations (Inter-American Development Bank, 1986; Lacroix, 1985; Longhurst, 1987) hold that under certain circumstances it is a legitimate and even necessary measure. "Agrarian reform ... is an important question in a number of countries. This is what should happen when there are great inequalities in the distribution of income and land, when large areas of arable land are put to extensive use and when the prospects for employment in other economic sectors are not favourable" (IDB, 1986, p. 155).

In reality the subject was never considered obsolete by experts in rural development. But the model of productive modernization and the orthodox and neoliberal theories so fashionable during the 1970s and the early 1980s contradicted this concept of State intervention. Be that as it may, the succession of incomplete agrarian reforms, symbolic or reversed, in various countries of the region, failed to deal with the fundamental problem, that is to say, with the extreme concentration of fixed and financial capital, skills, technology and infrastructure and of the marketing networks.

The negative effects of the concentration of land make themselves felt not only in situations in which traditional, although somewhat rea-

dapted, agricultural and stock-raising production methods, such as the traditional *hacienda*, still persist. It is true that in those areas in which modern, capitalized and highly competitive agriculture has developed, the subject of agrarian reform is becoming more conflict-ridden and difficult to justify as a measure for appropriation and distribution (Lacroix, 1985). Nevertheless, the simple dichotomy between the *hacienda* agriculture and modern agriculture disregards the historical fact that alliances have been formed under various economic conditions between traditional *hacienda* sectors and modern entrepreneurial groups. What is more, a significant portion of agricultural modernization has taken place precisely in those *haciendas*

which were regarded as having a pre-capitalist character but which in fact were modernized by their owners.

Similarly, the image of efficiency and high productivity that many large-scale farmers endeavour to project distorts a complex reality in which the use of political influence has often led to the more or less covert acquisition of generous subsidies and State privileges. To a degree which varies with the country and the time, fixed prices and subsidized credits, apart from other indirect forms of subsidy —such as State agricultural and livestock research at commercial establishments— mean that the levels of productivity of the modern stratum are lower in practice than the reports indicate, since they conceal a cost that should have been assumed by the national society as a whole.

Agrarian reform is usually not regarded as belonging to the category of "social policies"; yet it is obviously the redistributive policy *par excellence*. Furthermore, it constitutes an instrument which can be very effective for achieving equity, eliminating extreme rural poverty and relieving migrant pressures on labour markets and social services in the cities. In those countries in which extremely high concentration of land exists side by side with an impoverished small-holding population and a semi-proletarian landless peasantry and in which these two categories constitute a significant percentage of the national population, reform of the land-tenure structure —including the provision of technical and credit assistance for increasing the productivity of the

beneficiaries— must be considered as an inevitable medium-term measure.

In the final analysis, beyond the question whether or not agrarian reform, in terms of a process of land expropriation and redistribution, should be applied in a specific country, it seems proper to suggest that every State should establish a permanent policy for land tenure and use. Such a policy should specify explicit goals with regard to the optimum combinations of the national configuration of land holdings according to size, in relation to the different types of use. These goals would be determined through a deliberate effort to reconcile economic and social objectives, taking account of the relationship between possible land reforms and the provision of various inputs to peasant agriculture and the application of wage policies in the sector of entrepreneurial agriculture.

This policy of land tenure and use, which should form part of an overall national project for sustained and equitable development, would be subject to periodic revision in order to adapt it to the evolution of economic and social conditions and to possible changes in the goals themselves, as a result of changes in the correlation of political forces. Its principal advantage is that it would provide a more coherent overall view of the complex problem of tenure, facilitating *inter alia* the decision whether or not agrarian reform should be applied in a particular economic situation.²

7. The creation of non-agricultural rural employment

Whatever may be the time-frame adopted, it is clear that the creation of new productive employment outside the agricultural sector constitutes a key element of any strategy for rural development with equity. In the short term it represents an alternative way of dealing with the emergency caused by the crisis, whenever the deterioration in workers' income can be eased by the employment created through increased

²For a more detailed discussion of the subject of agrarian reform see, for example, Warman (1977), the journal *Conyuntura agropecuaria* (1987) and the Ministry of Farm Development and Agrarian Reform of the Republic of Nicaragua (1986).

investment in infrastructure. Large-scale employment programmes for the construction of aqueducts, sewers, electrical networks and housing have the virtue of improving the basic conditions of rural life and reducing the incentives for migration to the cities. Noteworthy in this connection is the capacity of certain temporary activities—the construction of highways and irrigation systems—to generate permanent employment as well (Klein and Wurgaft, 1985). The construction of local irrigation microsystems can generate particularly significant increases in production and employment, in so far as rural strategy is centred on the realization of the latent productive potential of the peasant sector.

In the medium term an improvement in non-agricultural rural employment is indispensable. It is beyond dispute that this subsector is growing more rapidly than agricultural employment. Between 1960 and 1980 it increased from 12.5% to 21% of the total economically active rural population in Brazil, from 19% to 36% in Ecuador, and from 19% to 43% in Panama (ECLAC, 1988, table 20).

Construction, handicrafts and trade are activities which have become traditional in almost every peasant culture, and therefore they offer some comparative advantages for the creation of productive rural employment. Handicrafts and trade employ a large number of women, while construction offers an interesting potential for expansion in the absorption of male workers, in combination with self-build programmes and remuneration in the form of food. This potential may be oriented towards an improvement of currently available housing, to the extent that the effective capacity of rural demand would expand; but it may also extend to social infrastructure: health centres, schools, community halls, commercial premises, governmental offices, granaries and warehouses, etc.

The promotion of non-agricultural employment, viewed in the medium-term perspective, also requires complementing this policy with the annual cycle of peasant cultivation of basic grains and other crops. In general, the non-agricultural activities that arise in the countryside have their own cycles, as happens in the case of agricultural industry, the production of inputs for agriculture, construction, tourism and some commer-

cial and manufacturing categories, but many of these activities are complementary to those of the peasantry. The State may promote the creation of such temporary employment, either through infrastructure projects or through support for co-operative or communal micro-enterprises.

In the longer term, rural non-agricultural employment takes on crucial importance. The capacity of agriculture to absorb manpower is limited, especially if the aim is to continue increasing the productivity and income of the persons engaged in this sector. Once the first stage in which support is given to the peasant economy has been passed and measures designed to increase manpower needs are promoted for commercial agriculture, the rate of expansion of agricultural employment will probably decrease again, no matter what strategy is adopted. It may also be expected that in the long term the new non-agricultural occupations will demand a more skilled type of manpower, either in agricultural industry, in the ruralization of manufacturing industries or in modern social services.

8. The promotion of demand

In numerous development programmes for peasant agriculture, it has been easier to increase production than to keep it at its new level. Small-scale producers have often gone quickly from euphoria to disappointment when a good harvest glut the market and results in the ruin of peasants who had gone into debt in order to make investments. A good public service for the accumulation and regulation of the grain market and of markets for other crops may avert disasters of this kind in the short term, but it will be incapable of preventing the chronic oversupply that results from "too much success" in the promotion of peasant production.

Obviously the increases in supply should be accompanied by a decrease in the cost of production and marketing and also, most particularly, by an increase in the purchasing power of the broad strata whose incomes are marginal. A number of countries have been promoting the construction of family and community silos and granaries in order to ensure the supply and conservation of food for the producers themselves. Similarly, support is being given to the direct

delivery of fresh vegetables to urban consumers. Although there is a tendency to exaggerate the magnitude of profits and the inefficiency of small and medium-sized middlemen, there is no doubt that State assistance in logistical, legal and advisory questions tends to cheapen and make more mobile the flows of these products, to the benefit of producers and consumers (Monje, 1987; Iturriaga, 1987; CIERA, 1987).

Improvement of the purchasing power of the urban population is a subject which is beyond the scope of this study. However, it is worth mentioning that, unlike what happens in the case of middle-class and upper-class households, the poorer urban families spend disproportionately more money on food as their per capita income increases.

The success of policies aimed at generating jobs and improving income for the benefit of the popular strata may be expected to bring about changes in the composition of the family food

basket. In the following phase, therefore, it would be indispensable that the peasant sector should engage in activities complementary to the cultivation of basic grains, diversifying its production to an increasing extent, so that it will also include the products of activities such as intensive stock-raising, fish-farming and dairying, fruits and vegetables, etc.

Lastly, since in many Latin American countries malnutrition is concentrated in rural areas, more particularly among the small-holding peasant population, it may be anticipated that the increases in production and sales in the categories which they engage in by preference will have a considerable direct impact on the demand for such goods, either through consumption by the farmers themselves or through horizontal exchange between areas with different kinds of agricultural specialization. This phenomenon, in turn, will open new markets for mass-consumption manufactured goods (IDB, 1986).

III

Final considerations

1. *Rural social change and overall long-term development*

We thus return to the initial subject of this study, namely, the urgent need to realize the potential of supply and demand among the poor strata of the rural population in order to expand the domestic market, as well as the role to be assigned to rural social policy as part of sustained overall development, in the light of the restrictions now being faced by Latin America.

In the long term, the type of strategy which has been proposed here will be successful only if the peasantry will —instead of generating greater and greater surpluses of manpower, which exert pressure on the urban unskilled-labour market— become a generator of productive employment that can stimulate the domestic market. For this purpose, it is indispensable to offer better occupational opportunities and better expectations of life to the new generations of young peasants, so that a start will be made on

reducing the welfare gap that separates the rural areas from the urban world. It is also essential that peasant families should in fact be able to keep their children in school full-time until they complete their secondary studies, and to do without the children's labour on the farms. This implies a long-term investment and an improvement in the child's quality of life. The reduction of the difference in fertility between this social group and other social groups³ will also be accelerated if educational opportunities, which favour mobility from the peasantry to highly skilled and productive occupations in other sectors, are expanded.

Thus, in the short or long term, the creation of rural employment must go much further than the attainment of mere survival, and it is indispensable that it should also promote upward

³The overall fertility rate of women in peasant families is approximately twice the rate observed among middle-class women (CELADE, 1987).

occupational mobility in the rural areas themselves, either in agriculture or in other activities.

For the attainment of this goal and the gradual withdrawal of children from the tasks involved in exploitation of the family farm, it is necessary that the popular strata—peasants or wage earners—should significantly increase the control they exercise over various productive resources. This, in turn, requires rejecting the approach that has traditionally been used in dealing with rural social development. It also presupposes that the popular strata of the rural areas will assume their proper role in the demographic activities of civil society.

2. *Putting good ideas into practice*

The consequences of the crisis require a drastic reorientation in rural socio-economic policies. In order to combat extreme poverty and inequity in the rural areas, a wide range of good ideas, appropriate techniques and effective policies is already available. It is also possible to imagine more than one viable line of strategy for the 1990s, using a combination of several different policies.

The question of success or failure thus becomes dependent on how these reforms will be financed and how the political strength for carrying them out can be mobilized, two questions of a highly practical nature. In the preceding pages we have attempted to deal with both these questions, although necessarily in an abstract and in simplified form. As for financing, beyond the attenuation of the extreme inequalities prevailing in the rural environment, we must also transfer to that environment some resources obtained from urban society. We have advanced the thesis that such a process would turn out to be beneficial to the country as a whole. With regard to political viability, we have

suggested that the point of departure would be the operationalization of the abstract principle of "popular participation".

A number of Latin American countries have made efforts in recent years to put strategies of a general type, such as those proposed in this study, into practice. The growing concern at the spontaneous evolution of rural poverty has prompted specific actions aimed at intervention in various national contexts. In these cases we observe the simultaneous presence of three strategic elements: i) the legally guaranteed allocation of a percentage of the federal budget, or of the amounts collected through value-added taxes or through customs duties on imports, in such a way as to produce large-scale and permanent financing for the areas of greatest poverty; ii) the modernization of municipal governments, which will become decentralized executing agencies for development planning; and iii) the creation of popularly elected councils, at the local, municipal and provincial levels, invested with decision-making powers for the choice and administration of local development projects (Bustamante, 1987; Republic of Colombia, 1987; Republic of Guatemala, 1987).

The immediate future will be the acid test of these strategies. The big question is whether such alliances and mobilizations will have enough strength to put these legal provisions into practice, in the face of stubborn resistance and counter-offensives from vested interests and the holders of local and regional power. If these strategies fail to achieve their aim, then the measures for financing and participatory mobilization, conceived precisely for the purpose of realizing the good ideas available for rural social development, will be recorded in the history books as merely one more of the many good ideas which were shattered in their assault on the immovable structures of privilege.

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Interaction between the public and private sectors and the overall efficiency of the economy

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The countries of Latin America are confronting the challenge of dealing with a restructuring of their economies on the basis of adverse conditions resulting from the crisis. Neither the neoliberal State nor traditional interventionism can perform the exacting task that the crisis situation and the need for transformation demand. On the contrary, what is needed is a joining of forces by the social and productive sectors which proceeds from the assumption that competition is not only internal but also international.

As shown by the successful experience of some countries of the developing world, the role of the State is crucial in this context, but it is necessary to change its traditional libretto: less regulation and more promotion of development. Greater decentralization of decisions would make it possible to expand the capacity for innovation. Thus, it would be desirable—for reasons of social rationality—to combine planning and the market instead of insisting that they oppose each other. Indeed, what is needed is to promote a new arrangement of public, State and private interests which will be more functional, so as to establish a virtuous circle of relationships. The reason is simple but powerful: the mixed nature of an economy is determined not only by the obvious coexistence of various forms of ownership but also by their interactions and articulations and by the modalities of functioning of the economy as a whole. The purpose is not the thoughtless dismantling of the present system of regulations and the State-controlled productive apparatus, but rather its rationalization—in a gradual and clearly understood manner—so as to improve the overall efficiency of the economy, in its public and private sectors.

In this context, the policy of public enterprises should be revised, to concentrate on strategic and priority activities at the macro level and to modernize their structure and regain the entrepreneurial spirit at the micro level.

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Introduction

The expansion of the public-enterprise sector (PES), especially during the last two decades, has been a generally observed phenomenon in mixed economies, not only in the developing countries of the world but also in the developed countries.

One of the basic characteristics of the PES in the context of Latin American countries is its marked heterogeneity, with regard to the forms of juridical organization, to the asset structure of its enterprises, to the nature of the goods and services it provides and to the various markets and social needs towards which it is oriented, even including the actual history of the creation of each enterprise or its incorporation into the public sector. In reality there exist several parallel histories in the shaping of the PES which are governed by different rationales. For this reason, it is pointless to diagnose the problems of the sector without some reference to its heterogeneity, or to establish uniform policies for such a complex and diverse reality.

The PES has played a deliberate and decisive role in the consolidation of the independent national States of the region and their process of economic and social development. However, some national analyses agree in pointing to a growth of the PES during the past few years that was not necessarily planned; this growth has been the result of *ad hoc* solutions for problems of economic policy (for example, the incorporation of private enterprises which have gone bankrupt) rather than the consequence of a long-term orientation towards a growing nationalization of the economy.

When this result is understood in its entirety, the PES constitutes a complex and diversified technical, economic and financial conglomerate which is very difficult to manage and control effectively; some of the factors involved are: the difficulties encountered in administering conglomerates of large dimensions (public or private); the excessive demands made on disarticulated public apparatuses; and the difference between State ownership and the capacity for effective public management.

Furthermore, these conglomerates operate in the context of economies which exhibit visible

signs of overall inefficiency, both in the public sector and in the private sector, in a perverse circle of integration. Consequently, taking aim solely at the lack of efficiency in the PES does not seem the most satisfactory approach; it seems more appropriate to stress the need for increasing the overall efficiency (public and private) of the economy in order to improve its foreign competitiveness and to rationalize its internal functioning.

The difference between opinions and realities and the difficulties in understanding what is happening with State intervention in Latin America are due partly to the lack of a theory capable of explaining the real functioning of a mixed economy and providing a foundation for the design of policies and other measures for concrete action. The multifaceted nature of the

subject gives rise to many attempts at interpretation, generally contradictory to one another, and requires empirical methods of analysis. To a large extent, an understanding of State intervention must still be sought in social and economic practice, before the theories applicable to this subject are fully developed.

In this context there are three outstanding topics which are clearly interrelated. In section I we shall analyse the modes of interaction of the public and private sectors in the context of the mixed economies of the region. Next we shall review some basic elements for a reform of the PES (section II), and lastly, we shall examine the central characteristics of the programme of privatization (section III). In our final considerations we shall formulate some questions as the basis for our debate.

I

Interaction of the public and private sectors

A mixed economy may be characterized essentially by the coexistence of two basic organizational principles: i) the principle of the private economy, based on market relationships and with the profit rate as the main guide in the allocation of resources; and ii) the principle of the public economy, where the organizing principle that prevails is the allocation of resources through administrative provisions or processes of a political nature.

There are, in short, two different kinds of logic to govern allocation: one through the market, and the other outside of the market.

These two kinds of logic interact both at the microeconomic and at the macroeconomic level. The first type of interaction is found in mixed-ownership enterprises, in which private and public capital are articulated at the microeconomic level through a relatively broad range of modalities. At the macroeconomic level, on the other hand, both kinds of logic interact through a combination of many economic policy measures, partly created by demand and partly imposed. These measures, in turn, may be divided into anti-market policies (regulations of all kinds)

and pro-market policies (various measures for encouraging private activity).

In the Latin American case, State intervention—and in particular, public production—has been based on two types of considerations, both of them related to the allocation of resources, but from different points of view. The first, of a more academic character and with a microeconomic and static focus, concentrated on correcting the so-called defects of the market; the second, more pragmatic and with a macroeconomic and dynamic focus, revolved around the role of the State in the process of capital accumulation.

The traditional theoretical approach to an economic analysis of public production is based on the propositions of the "welfare economy". As is well known, given a specific distribution of production factors, the competitive forces in a market economy would generate an allocation of resources which is efficient by Pareto's definition. There are a number of reasons why the system of market prices does not provide adequate signals for the efficient allocation of resources. In the context of this discussion,

attention should be given to two of these reasons: i) When there are yields which increase with the scale of production, for example in the distribution of electric power, and ii) the presence of externalities, as is the case with congestion in urban transit. The most common response to this situation in the economies of Latin America has been public production.

Consequently one of the theoretical justifications for public production is found in considerations of allocation efficiency; that is to say, it aims at achieving an efficient allocation of resources in the economy as a whole. In contrast, the argument in favour of private initiative rests on the role of incentives and restrictions created by competition in order to attain productive (or technical) efficiency of the enterprise (maximization of profits or minimization of costs for a given level of production).

The normative focus of public-enterprise economy implicitly presupposes the existence of production efficiency. The empirical relevance of this assumption is important, inasmuch as production efficiency is a necessary condition for allocation efficiency (Rees, 1984), which, as has been pointed out, is the basis for public production. The heterogeneity of the public-enterprise sector in the countries of the region makes it impossible to give specific answer, let alone a unique answer, to the question whether or not this assumption is valid. The danger posed to production efficiency by a possible difference between the actual modalities and the normative view of management was made clear long ago (Little, 1952). The central argument pointed to the complications of a context which made it impossible to define clearly the objectives of the enterprise and, at the same time, the difficulties in evaluating its management on the basis of results.

A public enterprise must satisfy three kinds of logic: i) that of an entrepreneurial entity; ii) that of an instrument of governmental policy; and iii) that of a productive unit subject to public evaluation (Martin, 1986). The frequent lack of agreement between the first two kinds of logic (maximization of profits as opposed to efficiency in attaining governmental objectives) helps to create an image of inefficiency of the public enterprise which is based on its financial deficit, or alternatively, on its need for compensatory tax resources. Parallel with this, the pres-

sure for reducing the public enterprise's expenditures results in a deterioration of the levels of service, thus damaging its valuation within the ambit of the third kind of logic (a productive unit subject to public evaluation).

In theory, a private enterprise is guided by a simpler logic, namely, maximization of the profit rate, and a clear indicator of its performance is the market value of its stock. Furthermore, competition in the product market punishes inefficient enterprises with bankruptcy, while competition in the capital market makes it possible to shift the guidelines of the enterprise before it reaches a critical point in its management.

However, the reality of the economies of the region does not agree with this model of market-imposed discipline. The lack of competition in product markets, the minimal number of enterprises quoted on the stock exchange, their relatively closed capital structure and the poor development, or indeed the speculative perversion of capital markets, reduce quite appreciably the pressure on private enterprise to attain efficiency in production and allocation.

This contrast between supposed incentives and real incentives, both in the management of public enterprises and in that of private enterprises, is a clear indicator of the deficiencies in the overall functioning of the economy. An explanation for it must be sought in the second viewpoint mentioned earlier: the role of the State in the process of capital accumulation.

The magnitude and rate of State intervention in the Latin American economies, beginning immediately after the Second World War—and in some countries, beginning some years earlier—was based on a fairly general consensus concerning the role that should be played by the State in the dynamization of the process of economic development. This model was based, on the one hand, on the State's capacity to finance its own expenditures and reallocate the flow of savings in the economy and, on the other hand, on a broad and consistent system of regulations.

This coherent combination of mixed production and regulations shaped a pattern of growth in which two economic factors became conspicuously dynamic: the State monopoly—natural and protected—and the protected private monopolies and oligopolies. In both cases, the lack of competition severely restricted incentives

for attaining efficiency in production and in the allocation of resources; similarly, it led —on the part of both State and private management— to a constant struggle for the appropriation of quasi-rents originating in reserved and incontestable markets.

In this context, the logic of public production and that of private production have interacted in a pattern of increasing conflict, especially since the crisis in this model in the early years of the past decade. i) In connection with entrepreneurs, we observe a dual attitude towards State intervention: their propensity to adhere to an ideological discourse that blames State intervention for most of their troubles and, on the other hand, their pressure on public resources to compensate for their lack of competitiveness, to increase their profits or to make up losses resulting from mistaken decisions. ii) On the part of public officials, we can also observe two types of attitude: their intention to transfer the modalities of private management mechanically to the public sphere, disregarding the differences in objectives and procedures that arise from the particular resource-allocation logic in each sector; and their insistence on imposing more far-reaching regulations because they regard the private sector as structurally and permanently too weak to exercise the entrepreneurial role, or inevitably perverse in its modality of operation.

Any of these positions can unquestionably be supported by experience: it is possible to argue about the "failure of nationalization", just as it is valid to speak of "the nationalization of failure". However, the point is that unless this situation of conflict and mutual distrust is overcome, the work of development and democratic coexistence is less likely to succeed. In short, we must build the bridges that will enable us to span the gaps that each position insists on creating (ILPES, 1985). In this connection, it is relevant to remember that relations between the participants in the two sectors have become less and less secret in the modern economy; consequently, the importance of negotiation has increased.

It is probably time for a *new agreement on limits* between the public and private sectors, but is beyond doubt that there is an urgent need for *agreements on frontier integration* (with priority among them being given to an agreement on technological innovation and another on the

flow of reciprocal financing). The reason is simple: the mixed nature of an economy is determined not only by the obvious coexistence of different forms of ownership but also, and primarily, by their interactions and articulations and by the modalities of functioning of the economy as a whole. Within a democratic framework, both the possible new treaty and the above-mentioned agreements should be widely discussed and open and above-board.

The unprecedented challenges posed by the crisis require different solutions today; in particular, we must attain greater overall efficiency and make the productive structure more flexible in order to maximize its capacity for long-term adaptation to unfavourable changes and to the opportunities that a volatile and turbulent external framework also offers. Thus the task of development requires facing the connection between entrepreneurship and government as a subtle challenge to work of social concertation. Only an authentic entrepreneurial force (private and public) can serve as a leader capable of bringing about the changes that will be needed to modernize the productive apparatus; only governmental leadership, with a long-term vision, can distinguish the risks of technological dependency and reduce them through a development policy that has the approval of society as a whole (ILPES, 1987).

In this connection, the countries of the region are facing the challenge of an offensive carried on with conspicuous persistence by international financing organizations and other external observers, which stresses the need for privatization (Aylen, 1987). This proposal for a change in direction has entered the area of internal discussion in several countries of the region and has found a favourable echo in some national entities. Others have questioned either the foundations, the magnitude or the rate of the proposed change in direction.

Although a dogmatic and indiscriminate application of this position must be opposed, there are two good reasons why the problem should be carefully analysed in the context of each national situation: one reason, which is political in nature, is that the idea that everything must be created or resolved through State initiative is contradictory to the very concept of a mixed economy; it results in passive and dependent social behaviour bearing little relation to

reality and to undesirable reductions in the creativity, initiative and responsibility of the various national entities; the other, of a technical nature, rests on the fact that the combination of functions performed by the governmental sector constitutes a very complex and diversified productive, economic and financial conglomerate and that, in addition, it has some perverse articulations with the private sector and imposes upon the government a set of demands which exceed its available supply of real creative, negotiating, organizational and financial resources.

There is also a more pragmatic reason: in the countries of the area, governments have adopted or are considering actions to redefine the relationship between the public and private sectors, within a framework of sharp controversy or

uncertainty concerning the possible results. Unquestionably a serious effort of imagination and initiative must be made in order to find acceptable and viable solutions. In section III we shall consider the arguments and the recent experience of privatization programmes.

It should also be pointed out that even if major successes are achieved in the process of privatization, transfer of management or decentralization, it seems realistic to believe that a broad public sector will continue to exist, and this fact will make it necessary at the same time to continue and intensify the effort for modernization and improvement of the economic and social performance of the public sector, a subject which will be discussed in the next section.

II

The reform of the public-enterprise sector

In the Latin American experience, with national variants, the PES has been shaped predominantly in the so-called ministerial-supervision régime. This structure had as its purpose the attainment of the objectives fixed in the constituent document of each enterprise, harmonizing its management with the policy and programming established by the government for the sector in which it was active, and the granting of the administrative, operational and financial autonomy necessary for efficient management.

In addition, the integration of the sectoral ministries into a National Planning System was aimed at making the activities of each ministry, including its associated entities, compatible with the more general objectives of development policy.

However, this formal design disregarded a fundamental question in the analysis of the problems of organization and management of the public sector: the fact that public enterprises exist in the political space of the interests associated with a specific governmental policy.

This omission was based on a concept of the State and society that was distorted by formalism and was inconsistent with the complex nature of

reality. It presupposed a monolithic view of the State apparatus, corrupting both its real relations with civil society and the characteristics of the process of public-policy formation within the State bureaucracy.

The State apparatus is not the result of a rational process of structural differentiation and functional specialization, nor can its development be mechanically adapted to a planned and coherent design. To the extent that its various centres of decision divide their loyalty among proposals, interests and projects of different kinds, there is a compromising of the homogeneity of policies, the overall coherence and co-ordination of decisions and the capacity to plan and decide on long-term questions. That is to say, the nature of the public productive apparatus and its actual administrative organizations are affected by the vicissitudes of a constant struggle within the bureaucracy, which in turn reflects other adversarial relationships in society.

The relative lack of success of those forms of supervision and control may be attributed to a number of factors. Almost all of them are related in one way or another to the greater technical

and political power of enterprises in comparison with the authorities responsible for their supervision and control. Thus, in view of the inability to evaluate the merits of the enterprises' performance, these tasks relate primarily, and often exclusively, to formal aspects. Consequently the focus of control is shifted to the legal and formal plane which characterizes the budgetary control of public administration and remains centred in a purely bureaucratic sphere.

In general, different aspects of supervision and control that affect a particular area of the enterprise (personnel, prices, financial resources, etc.) are exercised by different entities, leading to the so-called problem of multiple ownerships. When supervision and control—functions assigned to a number of different organs of the central government—lack the necessary co-ordination to take account of their interactions and to give consistency to their development as a function of time, this may result in situations which are unmanageable from the standpoint of the unitary logic of the public enterprise.

The difficulties in the functioning of this model of the relationship between the PES and the central government have been aggravated in recent years by two facts: the aforementioned process of sharp growth of the PES in almost all the countries of the region, and the economic crisis which has afflicted the Latin American countries since 1981-1982 and whose most obvious manifestation is the problem of foreign debt.

The economic crisis had a significant effect on the relations between the PES and the central government. With a greater or lesser degree of alteration in the formal organization of this relationship, public enterprises were subjected to strong financial controls centred in the responsible authorities of the government's macroeconomic policy. The establishment of these controls, whose rationale is based on the attainment of external adaptation and internal stabilization, through either simultaneous or successive processes, had serious consequences on the performance of public enterprises, in some cases even involving the cost of operation and the maintenance of its installed capacity.¹

Operationally, the basic trend was aimed at the programming and follow-up of the annual

financial flow of the enterprises. Specifically, with regard to expenditures, limits were placed on investment, other capital expenditures and debt servicing (amortization and financing charges), as well as on personnel expenses. On the income side, an attempt was made to control the use of the enterprises' own resources, those derived from fiscal transfers and from internal and external credit operations.

Some of the problems encountered with this type of control of public enterprises are worth identifying: i) the financial nature of the control predominates over the economic concept; thus, for example, criteria of the social or macroeconomic profitability of investments are usually not examined; ii) the approach of the control system is basically annual, which is contrary to the physical reality of investment projects and, at the same time, to an ordered programming of operations; iii) procedures for the control of expenditures tend to be applied uniformly, either through indiscriminate budget cuts or through the quarterly or monthly rationing of financial disbursements; iv) while the budgetary process is not integrated (the budget of the PES, the fiscal, foreign-exchange and monetary budgets) and only some of its parts are subject to legislative approval, the attainment of the macroeconomic objectives results in high costs to the less flexible budgets; and v) a control system centred in the agencies responsible for macroeconomic policy constitutes, from the standpoint of institutional organization, a framework for a conflict of interest with the sectoral ministries on which public enterprises are functionally dependent.

To the extent that this type of control is imposed abruptly and without an overall strategy—but also in a particularized manner—for the restructuring of the PES, it ends by closing the vicious circle that affects the performance of the public enterprise (Ayub and Hegstad, 1987).

¹In this connection, it should be recalled that although one cannot ignore the need to raise the level of governmental performance and to adopt a practice of austerity in public management, the possible giantism in public deficits is due in large measure to an impact retransmitted inwards from the foreign-debt front, which therefore cannot be solved merely by imposing drastic restrictions on governmental expenditure (Costa-Filho, 1987).

The experience of recent years has also revealed a reduction in the degree of autonomy of governments which design and execute public policies, thus affecting the capacity of national societies for organized collective action (ECLAC, 1988). It is essential that the vulnerability produced by the crisis should not distract the attention of Latin American countries from the future; this requires a significant conceptual and technical renovation of planning (ILPES, 1987).

With regard to the PES, it is necessary to shift the focus of attention, as well as to solve an important problem. In the recent past, efforts have been concentrated on the question how public enterprises should be controlled, restricted and utilized. Today the priority focus should be different: how to revivify the fading spirit of enterprise. In the central government this means developing a greater strategic capacity to administer a complex of considerable magnitude for industrial production and for furnishing services. In enterprises this requires emphasizing efficiency and maintaining the pressure on costs.

But it is also necessary to solve another problem: the system of relationships between enterprises and the central government. The inefficiency in some public enterprises is not exclusively due to internal factors; in many cases it is associated with the institutional and legal structure, as well as with the informal practices of the system that delimits and conditions the action of enterprises.

The previously mentioned heterogeneity of the PES discourages any attempt to formulate a general strategy for bringing about the necessary changes; this is even more true when we consider the variety of situations which, in this aspect as in others, exist in the economies of the region. Nevertheless, three possible components that may be of interest have been identified (Boneo, 1986).

In the first place, the reform process should be based on negotiation and harmonization rather than on formal hierarchical principles and the nominal distribution of authority. A necessary condition for this is greater transparency of the functioning of the system, which, among other things, requires giving priority to information systems, substituting quality and usefulness for quantity and irrelevance. One use-

ful procedure for initiating such a social and institutional practice is a simplified version of the programme agreement. On the basis of a few fundamental agreements, the procedure could evolve towards a more global, multiannual and public concertation. In accordance with this modality, the managers of each enterprise would increase their forecasting capacity and their flexibility with regard to policies on production, employment, prices and investments. The central government, for its part, would ensure greater efficiency in the attainment of its objectives and would also evaluate compliance with the enterprise's guidelines on the basis of result indicators, as the counterpart of greater entrepreneurial autonomy.

In the second place, negotiating procedures should be reinforced by a clear and explicit system of incentives and sanctions related to the fulfilment of the agreed goals. For this reason, the programme agreement between the enterprise and the central government should be accompanied by a strategic plan for the enterprise, including its restructuring if necessary; the plan should make it possible to disaggregate the global aims and assign internal responsibilities, so that graduated action can be taken at the responsible level in the event of unjustified failure to achieve the agreed goals. Similarly, it would be desirable to introduce a system of incentives linked to increments in productivity and other indicators of the enterprise's performance.

In the third place, in most countries of the region a governmental agency of some kind has been established to supervise all public enterprises or groups of such enterprises. In the context of the foregoing propositions, these agencies should become the focal point of negotiations between the government and the enterprise and should thus acquire influence over both of them. Their basic task would be to provide leadership and to give consistency to the negotiating process, to verify that the agreements are being complied with and to supervise the system of incentives.

Lastly, it should be emphasized that an overall but particularized strategy for the rationalization of the PES may include among its components the decision to concentrate govern-

mental efforts in areas regarded as having high priority. Thus, it is not uncommon to find the announcement, and in some cases the execution, of denationalization programmes with different

amplitudes and different degrees of intensity. Privatization, the most controversial component of these programmes, will be analysed in the next section.

III

Basic characteristics of privatization programmes

Privatization is a burning issue, and like most issues of this kind, it has been more diligently advocated or attacked than understood. Nevertheless there is a growing body of analytical and empirical research that analyses privatization from a more objective point of view and makes it possible to identify some of the economic impacts of the process. Although the discussion was initially centred on the exchange of assets between the public and private sectors, the analysis of its practical application has expanded the range of subjects under discussion so as to approximate the changing pattern of relationships between the two sectors.

The reasons for the general concern about this subject are clear, and although they vary from country to country, some common basic questions underlie the comparative analyses. Three of these should be emphasized: i) the imbalance in public financing, aggravated by the restrictions of the recent past and by the continuing growth of demands and costs; ii) concern over the quality of public management, which has been negatively influenced by the vested interests of corporate groups and by the rigidity of central bureaucracies in adapting and responding to periods of rapid change; and iii) the demonstration of obvious instances of overall inefficiency in the economies of the region and the need to improve their external competitiveness and rationalize their internal functioning.

From this point of view, greater decentralization of decisions may be viewed as one of the ways to mobilize resources through new procedures and to overcome deficiencies in management and, on the other hand, as a hope for improving the prospects of adaptation to change and to innovation. Nevertheless, it must be

pointed out that in this approach the deficiencies of the public sector are perceived with much more clarity than the real and effective opportunities afforded by the private sector; that is to say, a concrete image of the public sector is contrasted with a rather idealized vision of the private sector.

The basic modalities for privatization which will be reviewed below exhibit reasonably well-defined features, but their application—in different national contexts—will inevitably be varied and evoke growing attention and concern about its effects. It could hardly be otherwise, since this involves nothing more nor less than managing the balance between the public and private poles of mixed economies.

1. Objectives

On the subject of privatization a significant list of objectives has gradually been accumulated. Some of these objectives are: a) improving the level of economic performance of enterprises, which includes increments in their productive and allocation efficiency; b) finding solutions for the difficulties involved in the relationships between the agencies of the central government and the public enterprises; c) generating fiscal income through the sale of productive assets; d) promoting greater dissemination of stock ownership: democratization of ownership, or people's capitalism; and e) reducing the power of the various groups which exert corporate pressures on the public enterprise (suppliers, contractors, bureaucrats and trade unions).

All of these objectives have been assigned to privatization programmes, especially in those countries in which more effective progress have been made (in this context, see Waters (1987)

for the United Kingdom and CORFO (1985) for Chile). It should be pointed out, however, that this multiplicity of objectives is not an unequivocal indicator that the policy of privatization, as carried out in practice, follows any very sophisticated rationale; on the contrary, such multiplicity reveals the lack of a clear and solid analysis of its purposes and effects. Rather, as has been clearly indicated by Kay and Thompson (1986) in their analysis of the British experience, this is a policy in search of its rationale.

There are three reasons for this characterization: first, growth by aggregation would indicate that any additional objective that appears desirable or attainable is incorporated into the list; second, the lack of an explicit analysis of the compromises between objectives which are actually or potentially in conflict; and third, the fact that privatization in practice clearly shows that the objective of economic efficiency has been subordinated to the objective of generating fiscal resources² and redistributing assets,³ but especially to that of giving reality to the decision for privatization when this has been announced. In this connection, useful illustrations may be found in an analysis of experience with the privatization of several major enterprises in various developed countries, as presented in Cointreau (1986).

2. Instruments

As mentioned earlier, the subject of privatization was initially centred on the interchange of assets between the public and private sectors. Gradually the subject has been expanded to take account of the changing pattern of relationships between the two sectors. In accordance with this greater scope of the concept of privatization, there has also been an increase in the number and type of instruments considered, which may be classified into three groups:

- a) *Sale of assets*: the exchange of private financial assets for public productive assets;

- b) *Deregulation*: a collection of measures for introducing greater competition into markets which have previously taken the form of legal monopolies, or into those which constitute technical monopolies;
- c) *Concession contracts*: actions designed to introduce competition through the market into situations in which there is no market competition.

The privatization of certain enterprises may also be based on combinations of these basic instruments, as will be seen below.

a) *Sale of assets*. This has been the instrument most widely used in ongoing privatization programmes. Such a sale is carried out through three types of procedures: the offer of stocks at a fixed price, generally in a sequence of partial operations on the stock exchange; the opening of bids for the purchase of successive packages of stocks; and direct negotiation between public authorities and investment groups, which are chiefly foreign groups.

The first procedure requires fixing a price; this task is not a simple one, because the shares offered are often those of enterprises which produce goods without any obvious private equivalent, or because there is no commonly accepted reference pattern. Although the economic principle that should guide the fixing of the price is simple (the present value of the prospective profits that can be made from the assets), its application runs into serious difficulties in practice. For this reason, in an analysis of recent experience with the transfer of assets, one factor that stands out is the relationship between the price at which the shares are acquired and various indicators of their probable value.⁴

Without disregarding the controversy generated by the choice of a pattern of reference for such comparisons, almost all analysts agree that there is a definite tendency towards undervaluation, particularly when the sales are made during

²For a critical evaluation of the fiscal effects of privatization, see Mansoor (1987).

³In this context we should distinguish between effects on the distribution of assets and other impacts on income distribution (Vernon, 1988).

⁴In the case of Chile the sale price has been compared with the book value of the shares and with other methods of asset valuation (see tables 3 and 4 in Errázuriz and Weinstein, 1986), and in the case of the United Kingdom the reference pattern used has been the registered value in stock-exchange operations once the quoting of the shares on the open market has been permitted (see table 3 in Kay and Thompson, 1986). Very substantial discounts are found in both cases.

periods of economic recession. However, there is disagreement on the question whether this is unavoidable, or even desirable. In any case, it is also evident that governments consider other aspects when they fix prices for the sale of shares (Vernon, 1987). One of these considerations consists in making sure that the shares offered for sale will in fact be placed on the market, and for this reason there is a general tendency to establish prices which are low in comparison with the possible objective criteria. The motives for this procedure are complicated: one reason is an attempt to avoid in this way the negative repercussions of a failed offer, but another goal is the gradual consolidation of a demand for subsequent offers. In any event, it may be concluded that the undervaluation of public property generates extraordinary benefits for those who are in a position to acquire the shares.

An alternative to fixed-price sales is public bidding, with a minimum price, in order to generate offers for the acquisition of packages of shares. In reality, in those cases in which the asset-transfer procedures are more open, bidding has been one form of governmental reaction to criticism based on the low sale prices of the assets.³

The need for new inputs of capital that is being experienced by many public enterprises—a need increased by the fiscal restrictions imposed by the external crisis of the 1980s—together with the reduced size and development of local long-term capital markets, provides the foundation for a third procedure consisting in direct negotiation with foreign investment groups, both public and private. As is well known, the outlook for an increase in direct foreign investment in the region is dim, even starting from the present low levels; this is why it is useful to offer effective incentives that can attract investment. As a general principle, it would be desirable that operations carried out by this modality should be arranged as part of a national policy for foreign investment.

³In the case of the United Kingdom the use of this procedure has resulted in much smaller discounts, although it is also true that in some cases the authorities have not received sufficient offers to acquire all of the share package being bid on (see table 4 in Kay and Thompson, 1986).

The bases for the recent agreement between Aerolíneas Argentinas and the Scandinavian Airlines System seem to point in this direction. The probable transfer of 40% of the Argentine company's assets is part of a more extensive negotiation which includes capital inputs, renovation of equipment, modernization of company management and access to new markets.

A different situation is found in the case of the operations carried out under a régime for converting the foreign debt into share participation, which is becoming more widespread in the countries of the region, although with different characteristics (Lahera, 1987). Where the conversion is channeled towards existing public assets, a situation which is possible in some countries of the region but not in others, the result may be unfavourable to the country's interests. In some of these operations the foreign partners do not bring in any fresh capital, new technology or new markets for obtaining foreign currency. In actuality, all that happens is that existing assets are transferred at low and strongly subsidized prices.

Lastly, attention may be drawn to the particular case of sale at zero price, which is the donation of part of the State's share capital to broad social groups with low income. This proposal (Gerchunoff and Guadagni, 1987) seeks to reconcile the democratization of ownership with economic efficiency in denationalization programmes, on the basis of a combination of private management (private risk investors and minority investors but with control of management) and non-State public owners (dispersion of majority share ownership in order to ensure that the controlling capitalist group will aim at the maximization of dividends and not only at its own profits).

b) *Deregulation.* A recent highly systematic review of international evidence on the comparative performance of public and private enterprises (Domberger and Piggott, 1986) concludes that competition plays a more important role than ownership in the promotion of productive efficiency. Thus any possible differences in performance are directly related to the restrictions imposed and the opportunities afforded by a competitive framework in the product and capital markets. From this point of view, competition in the product market is conceived of as a

mechanism for detecting inefficiency (bankruptcy) and competition in the capital market makes it possible to restore the efficiency that has been lost. In order to enable both mechanisms to function, the privatization efforts should be preceded—or at the very least, accompanied—by deregulation programmes; otherwise the transfer of assets from the public to the private sector will not necessarily bring greater productive efficiency. This position is, of course, contrary to the view of those who maintain that the privatization process, in and of itself, will automatically lead to greater liberalization and flexibility of the economy.

The recent discussion on deregulation emphasizes the importance of removing barriers to entry as a prerequisite for increasing real or potential competition in markets. In the past the policy of regulation was based on the economic theory of market organization, which emphasizes internal conditions; this theory takes account of the different degrees of competition between enterprises that already exist in the market being considered. These internal conditions include both structural components and aspects derived from the behaviour of companies: market structure, differentiation of products, discrimination in prices, differences in costs, information leaks, strategic planning, etc.

This debate has recently been enriched by the theoretical proposition of contestable markets (Baumol *et al.*, 1982). This proposition emphasizes the importance of external conditions as a potential source of competition; that is to say, it stresses the influence that may be exerted on established enterprises by the possibility that new enterprises will enter the market. In the absence of non-recoverable costs—the value of investments that cannot be recovered when production ceases—the removal of barriers to entry will ensure quasi-competitive behaviour, even in the case of some natural monopolies, since if the monopolist generates opportunities for excessive profitability, his position will become vulnerable to the entry of potential competitors.

Although the assumptions on which the contestable-market proposition is based gave rise to extensive debate (see Shepherd, 1984), it suggests possible new orientations for regulatory policy. Thus the relevant criterion would be

not the number of enterprises and their respective market quotas but the facility with which potential competitors may enter and leave the market.

However, beyond theoretical possibilities, the tangle of interests created around a specific configuration of the regulatory system constitutes a formidable obstacle to any increase in productive efficiency achieved through greater competition or challengeability of markets. As has been correctly pointed out (Gerchunoff and Guadagni, 1987), in modern economies there exists a genuine market which confronts the demand and supply of regulations and around which both private and public interests are articulated.

Of course, what is at issue here is not the thoughtless dismantling of the regulatory system but rather its gradual rationalization, as openly as possible, in order to promote greater overall efficiency of the economy. Moreover, this task should not be looked at with an ingenuous concept that would disregard the existence and possible realignments of the groups of vested interests, but it is nevertheless necessary to shape a more functional articulation of interests for the establishment of a virtuous circle in the State-public-private relationship.

c) *Concession contracts.* The third type of instrument consists in the granting of rights to the production or distribution of goods and services in market situations characterized by the absence of competition, as is the case, for example, with natural monopolies. As has already been pointed out, this instrument was devised in order to introduce competition through the use of the market when there is no competition in the market. Although originally enunciated during the past century, this instrument was postulated more recently (Demsetz, 1968) as a possible alternative either to public production or to the State regulation of private producers. From the point of view of its application, we may distinguish between two criteria for seeking offers, in competitive bidding for the concession: i) a lower unit price for the production or distribution of the goods or services, and ii) a greater fixed sum for the concession.

In the first case, that of a Demsetz auction, competition between the bidders, in so far as there is no collusion, will reduce the profit rate to

its competitive level, when the offered prices approach the marginal cost of production. In other words, the adoption of this criterion would avoid the allocation inefficiency of natural monopolies, provided that the auction is truly competitive.

The second criterion would grant the concession to the producer offering the greatest fixed sum. Since the adjudication grants monopoly rights, the bids in this case would come close to the present value of the flow of net profits obtainable during the period of the contract plus the assets recoverable at its termination. Consequently the application of this criterion would increase fiscal income (a market configured as a monopoly is more valuable than a competitive market), but this would be at the expense of efficiency in the allocation of resources.

The system of concession contracts is more appropriate in circumstances in which the governmental authorities want to control the characteristics of the services or goods to be produced, and also in those cases in which explicit public subsidies are contemplated in its financing. The concessions for ground transport services in the United Kingdom and air transport services in Australia constitute recent examples of the application of this instrument.

However, the desirability of such a practice—from the governmental point of view—depends on a number of factors (Domberger, 1986), among which we may mention the following: i) the bids must be competitive and possibilities for collusion must be carefully watched; ii) the contracts must specify precisely and unambiguously the characteristics of the bid; iii) the optimum duration of the contract should reconcile the conflicting interests of the authorities and the concession holder; iv) the adoption of a regulatory framework should make possible the follow-up and evaluation of the contractor's performance in order to prevent in good time any deterioration in the quality of the service or goods; and v) the criteria for the transfer of assets upon termination of the concession should be clearly established.

3. Interaction between objectives and instruments

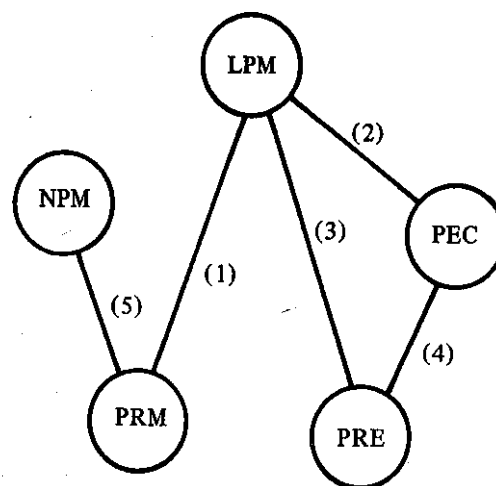
Table 1 presents in summary form the probable effects of each of the instruments on the various

objectives assignable to privatization programmes, in the extended sense indicated above.

On the basis of the effects identified in table 1, we can establish alternative trajectories (Gerschunoff and Guadagni, 1987) for privatization programmes which, at least in part, enable us to expect heterogeneity in the public-enterprise sectors in the countries of Latin America.

In this connection we should distinguish three basic situations within the PES: i) natural public monopolies (NPM); ii) legal public monopolies (LPM); and public enterprises in competitive markets (PEC). In the case of the private sector we can make a distinction between private monopolies (PRM), generally of a technical character because of the reduced dimensions of protected markets, and competitive private enterprises (PRE). In figure 1 we show alternative trajectories in the search for greater overall efficiency of the economy.

Figure 1



Trajectory (1) corresponds to the least desirable situation, but it is one of the most frequent in recent privatization programmes (Kay and Thompson, 1986). It involves the transfer of public productive assets to the private sector, and with it, the transfer of their monopolistic income. The attractive feature for governments is the generation of initial fiscal resources, although this is evidently in conflict with the flow of public resources in the medium and long terms and with distribution objectives concern-

Table 1^a

	Increase in efficiency		Fiscal income	Governmental control	Distribution of income		Pressure groups
	Allocative	Productive			Assets	Profits and dividends	
A.1 Sale of assets (monopolistic enterprises)	No	Yes	Yes	Regulatory framework required	Depends on the sale procedure	Depends on the regulatory framework	No
A.2 Sale of assets (competitive enterprises)	Yes	Yes	Yes	No	Depends on the sale procedure	No	—
B.1 Deregulation (with sale of assets)	Yes when the market is competitive or challengeable	Yes	Yes but less than in A.1	No	Depends of the sale procedure	Yes	Yes
B.2 Deregulation (without sale of assets)	Yes when the market is competitive or challengeable	Yes when losses are not assumed by the Treasury	No	No	No	Yes	Yes
C.1 Concessions (Demsetz auction)	Yes when the system of bidding is competitive	Yes depending on contract incentives	No	Authority for follow-up and control of the contract	No	Yes	Yes
C.2 Concessions (monopolistic-profits auction)	No	Yes	Yes	Regulatory framework of the contract	No	Depends on the regulatory framework	No

^aExpanded from table 3 in Domberger and Piggott, 1986.

ing the ownership of assets. This modality requires the public sector to organize a regulatory framework; in this connection, it should be noted that in the great majority of cases the reason for public production has been that it is so difficult to exercise an effective regulatory function (Boneo, 1985). In theory, the transfer should be reflected in greater productive efficiency, but international empirical evidence is not conclusive in this respect (Shirley, 1983). The effects on prices and wages depend on the degree to which possible increases in productive efficiency are translatable into lower prices and gains in productivity are translatable into higher wages.

Trajectory (2) implies essentially the deregulation of legal public monopolies and requires public enterprises to operate in more competitive or challengeable markets. To the extent that the government does not cover any possible operational losses of the enterprises, this would create incentives for an increase in productive efficiency, in addition to the greater efficiency that may be expected in the allocation of resources.

Trajectory (3) also consists in the deregulation of legal public monopolies, but in this case it is accompanied by the transfer of public productive assets to the private sector. It is in fact convenient to visualize this trajectory as a second stage of the preceding one (Brittan, 1986).

Trajectory (4) corresponds to the privatization of public enterprises that operate in competitive or challengeable markets. The private enterprises that were nationalized because of precarious economic or financial conditions are obvious candidates for reprivatization according to this trajectory. It should be noted, however, that in some cases the continuation of public enterprises in competitive markets with the participation of private enterprises may be indispensable for the preservation of this market structure (Ayub and Hegstad, 1987). Moreover, there are cases, such as that of Brazil, in which public enterprises in competitive markets operate at high levels of efficiency, both in production and in allocation (Oliveira, 1985), and therefore it is not justifiable to privatize them on the grounds of efficiency. What is indeed important, however, is that the enterprise should preserve the autonomy necessary for attaining its commercial objectives.

Lastly, trajectory (5) consists in the concession of production or distribution rights for goods and services as an alternative to public production in a natural-monopoly situation, the foundations of which have been reviewed recently (Roth, 1987). In this modality the critical points seem to lie in the viability of the establishment of detailed and precise contracts for the operation of the concession and in the actual capacity for follow-up and control by the governmental authorities and the users.

IV

Final considerations

In conclusion, and as the basis for a debate, it seems appropriate to present the following reflections:

1. The Latin American economies exhibit visible signs of overall inefficiency, both in the public and in the private sector. In this context: a) the inefficiency of public enterprises should not be regarded as axiomatic; where it exists, it is often caused largely by structures that are inappropriate and therefore correctible; b) the assumption of greater efficiency in private

enterprises is likewise not universally valid, at least in the real situations of the countries of the region; and c) important advantages can undoubtedly be found in both, but the stress should be placed on their positive interaction in the context of mixed economies, competitive abroad and articulated within the country.

For these reasons, we should combine deregulation operations with asset-transfer operations, on the basis of criteria of social rationality, and the transfer of assets should be part of an

extensive and careful programme of rationalization of the PES.

2. Privatization—in the extended sense used here—has burst upon the Latin American scene like a power-packed idea fraught with ideological symbolism, but one on which a rational discussion in the concrete context of each country has not yet been formulated. We must emphasize the need for prudence in visualizing, and especially in administering, the change that this implies; it may lead either to a broad democratizing experience or to a violent movement towards the concentration of power

and wealth and to the weakening of national frontiers as barriers to open transnationalization.

3. Another factor which must not be ignored is that the rationalization of the PES and the denationalization policies that may accompany it are long-term processes and, moreover, have consequences in this same time frame. For this reason, a minimal consensus must be achieved in order to ensure its continuity in time. This, in turn, requires extensive, informed and open debate.

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Cuba's convertible currency debt problem

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In the decade of the 1980s, Cuba has confronted a worsening debt problem in terms of convertible currency and in the context of its participation in the world economy. Before 1985, the debt problem appeared to be manageable, indeed it did not seem to be seriously damaging to Cuba's macroeconomic growth performance, which was strong from 1981 to 1985 in contrast to most other developing country debtors, which underwent profound economic contraction in this period.

By 1986, however, the convertible currency debt problem appeared to have entered a new phase. It became clear in that year that Cuba could no longer avoid austerity and economic contraction as a result of, and requirement for, dealing with the debt. In retrospect, it appears that the real severity of the debt problem had been obscured and avoided from 1980-1985 by temporary factors which strengthened the balance of trade situation. With the weakening of these factors in 1986, the genuine character of the debt problem became apparent.

In this study the origins, dimensions and impacts of the debt problem are examined first. The debt renegotiations, and particularly those of 1986-1988, are then analysed in the context of the macroeconomic and external situation at the time. Cuba's policy response to the 1986-1988 crisis is examined, and finally the situation in 1988 is outlined and the policy options are assessed.

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Introduction

In the decade of the 1980s, Cuba has confronted a worsening debt problem in terms of convertible currency and in the context of its participation in the world economy outside the Council of Mutual Economic Assistance (CMEA) grouping. This convertible currency debt grew rapidly in the 1970s for a variety of reasons but it was not until the 1980s that it began to create serious difficulties for Cuba. In the first half of the 1980s, the debt was of continuous concern and required rescheduling three times. Before 1985, the debt problem appeared to be manageable. Indeed, it did not seem to be seriously damaging to Cuba's macroeconomic growth performance, which was strong from 1981 to 1985 in contrast to most other developing country debtors, which underwent profound economic contraction in this period.

By 1986, however, the convertible currency debt problem appeared to have entered a new phase. Despite previous reschedulings, a deteriorating balance-of-payments situation made servicing the debt difficult in 1986, so that a fourth round of negotiations was initiated by Cuba in that year. Cuba suspended payment on the debt on 1 July 1986 pending successful completion of the negotiations. At the same time, it became clear that Cuba could no longer avoid austerity and economic contraction as a result of, and requirement for, dealing with the debt. In retrospect, it appears that the real severity of the debt problem had been obscured and avoided from 1980-1985 by temporary, reversible, and somewhat unnatural factors which strengthened the balance of trade situation. With the weakening of these factors in 1986, the genuine character of the debt problem became apparent. By 1987, the magnitude of the convertible currency debt was approximately US\$5.6 billion out of a total debt of about US\$13.8 billion.

The objective of this essay is to describe and analyse Cuba's convertible currency debt problem in the 1980s, with special emphasis on the 1986-1988 period. The origins, dimensions and impacts of the debt problem are examined first. The debt renegotiations, and particularly those of 1986-1988, are then analysed in the context of the macroeconomic and external situation at the time. Cuba's policy response to the 1986-1988

crisis is examined. Finally the situation in early 1988 is outlined and the policy options are assessed.

Before proceeding with the central part of this analysis, some preliminary comments are required on the dual character of Cuba's participation in the international economy, in order to explain why a distinction is drawn in balance of payments and debt accounting practices between its relations with the CMEA grouping in non-convertible currencies, and those conducted in convertible currencies with the rest of the world. Cuba's explanation of the apparent paradox concerning its commitment to honour its own foreign debts while advocating a repudiation of the debts incurred by other countries of Latin America and the rest of the Third World is also summarized in this introduction.

Cuba keeps two sets of balance of payments accounts and two sets of debt statements. One set is in convertible currencies and includes trade and financial interactions with non-CMEA countries and any trade conducted in such hard currencies with CMEA countries. Some socialist countries, such as China and Yugoslavia, are treated for accounting purposes as being largely or partly in the convertible currency area, but counter-trade arrangements with non-CMEA countries (e.g., Spain) are also included within the convertible currency area. By 1986, 15.3% of Cuba's total trade was in convertible currencies and 13.8% was with the market economies (so that the correspondence between these two was high but not complete). These proportions represented substantial declines during the 1980s in trade in convertible currencies and with market economies, which were in the regions of 24-25% and 22-25% respectively in 1980-1981 (see table 7 below and Comité Estatal de Estadísticas (CEE) 1985, table XI.7).

The keeping of two sets of accounts reflects the dual character of Cuba's international economic relations. Cuba's trade and financial relations with the CMEA grouping are conducted largely in non-convertible currencies, although there are mechanisms for clearing payments imbalances among countries within the grouping. The pricing of major commodities and manufactures exchanged in the CMEA is usually not based on or linked closely to world price levels.

Moreover, the terms and conditions of Cuba's convertible currency debt differ sharply from those for its debt with the USSR and other East European countries. Whereas the various forms of convertible currency loans were obtained on the commercial terms and conditions prevailing in the developed market economies, the terms of lending from the USSR have been particularly lenient. Commercial credits from the USSR bear a 4% rate of interest with a 12-year amortization, while the terms for financial credits are 2% and 25 years. Repayment of both types of loans can be in goods and services, and has been highly postponable in practice (Banco Nacional de Cuba (BNC) 1982, p. 15; Rodríguez, 1986a, p. 57). (Repayment of Soviet loans has in fact been postponed on a number of occasions, and now is to begin in 1990.) These differences in lending practices and terms constitute a further reason for treating the CMEA debt and the convertible currency debt separately.

For purposes of dealing with its creditors (including banks, governments and enterprises) in the convertible currency area, Cuba has made public its convertible currency debt situation since the early 1980s. On the other hand, the debt situation with the Soviet Union and the other CMEA countries is "classified" information. Cuba has argued that this information is in any case of no concern to the international financial community of the non-CMEA world in analysing and renegotiating the country's convertible currency debt. For this reason, Cuba's convertible currency debt situation can be analysed in detail on the basis of publicly-available information, whereas the debt situation with the CMEA countries can only be the subject of estimation and speculation at this time, due to the policy of official secrecy concerning it.

Finally, a few words are appropriate on the apparent contradiction of advocating debt repudiation for the rest of Latin America while emphasizing Cuba's willingness to pay its own debt. As is well known, President Castro has been a frequent and vociferous advocate of debt repudiation by Third World countries, particularly from 1984 to 1986 (Castro, 1985a; 1985b; 1987). At the same time, he has emphasized

Cuba's commitment to fulfill its financial obligations and repay its debt: "...we are the only ones (in Latin America) who can pay the debt and who want to pay the debt, who have the will and the possibility ..." (cited in Rodríguez, 1986a, p. 54) (see also Castro, 1987, pp. 144-150; BNC, 1986a, p. 19). This paradox has been seen outside Cuba as a policy contradiction, or perhaps even as a form of official hypocrisy. (See, for example, the *Wall Street Journal*, May 30, 1985; *New York Times*, July 28, 1985.) However, the Cubans consider that the character of Cuba's borrowing is different from that of the rest of Latin America (Castro, 1987, pp. 147-148). Cuba's borrowing, it is claimed, was not from commercial banks in the United States, but "with banks which challenged U.S. pressures, and included other credit sources from developing countries". Moreover, Castro has emphasized that Cuba's credits were invested in productive development projects or in social programme and were not misspent, nor did they permit capital flight on the part of local élites (Castro, 1987, p. 148). For these reasons, President Castro has stated that "we have always

proposed to fulfill our (debt) obligations to the extent it is possible to do so" (Castro, 1987, p. 147). At the same time, and despite the fact that Cuba faces terms and conditions on its convertible currency debt similar to those facing other Latin American debtor countries, President Castro argued that Cuba had a moral obligation to speak out on behalf of the other Latin American debtor countries, advocating a form of debt forgiveness or repudiation. This obligation existed because—at least until 1986—Cuba's growth performance was strong in contrast to the situation in the rest of Latin America (see table 7 for relative growth performances). Cuba's economy was strong, in Castro's view, because of its integration within the CMEA system and the favourable trade and financial environment which the socialist bloc provided (and which President Castro characterized as a type of new international economic order) (Castro 1985a, p. 168). It would have been difficult to convince President Castro in 1985 that there was a problem with respect to his country's convertible currency debt. This situation has probably changed in the 1986-1988 period, however.

I

The build-up of the convertible currency debt in the 1970s

Cuba's convertible currency debt was small at the beginning of the 1970s, amounting to Cu\$291 million in 1969. It grew rapidly from 1969 to 1979, however, at a compound average rate of 27.4% per annum, to reach a level of Cu\$3 267.3 million in 1979 (see table 1). Although precise information for the 1970s on debt service and convertible currency foreign exchange earnings (which differed somewhat from foreign exchange earnings with the market economies) is not available, there was no serious problem with debt service. When sugar prices declined from their 1974-1975 highs to lower levels from 1977-1979, however, debt service became somewhat more onerous. Nevertheless, even though the debt situation was attracting some attention

in this period (see, for example, Economist Intelligence Unit (EIU), 1977-1979) foreign bankers and official lenders remained willing to expand their lending.

This rapid expansion of convertible currency debt in the 1970s was the result of some factors which were specific to Cuba's situation as well as to other general factors originating in the functioning of the international economy and having similar effects on many developing countries. Because these have been analysed elsewhere recently (Turits, 1987, pp. 164-167) they can be summarized quickly here.

Cuba emerged in the early 1970s from what might be considered as a period of economic irrationality in the 1960s, characterized by exces-

sive centralization in economic organization, excessive and/or premature reliance upon "moral incentives" accompanied by a counter-productive de-emphasis upon material incentives, and excessive concentration on sugar production which in effect sacrificed other sectors in order to attain the 10 million ton target (Ritter, 1974). By the early 1970s, a concerted effort was made to reorchestrate the functioning of the economy on the basis of more "rational" economic criteria. Not surprisingly, economic performance in terms of growth improved: cumulative per capita GDP increased by a total of 64.5% from 1972 to 1978, while it may have declined by as much as a total of 9.5% from 1964 to 1972, according to estimations by Brundenius (1984, p. 40). (This rapid growth was also a partial result of some years of very high world "free market" sugar prices in 1974-1976.) In view of the new orientation of economic organization, strategy and policy, together with the strong growth performance it was generating, Cuba became an attractive borrower from the

perspective of commercial banks and bilateral official lenders.

At the same time as Cuba's credit-worthiness underwent dramatic improvement, the commercial banks of the market economies, flush with petrodollars for relending by 1974, began to market their loans aggressively to middle-income developing countries. Cuba was included as a good creditor in this drive to "recycle petrodollars". Official bilateral lenders were also anxious to expand their loans to Cuba to finance Cuba's imports of machinery and equipment, especially in periods of slack activity in their own national capital goods industries.

Meanwhile, Cuba's planners had become significantly more ambitious in their investment programming following the rapid recuperation of the Cuban economy in 1972 and 1973 after the problems of the late 1960s. Gross investment rose from 12.1% of Gross Social Product in 1970 to 17.2% in 1974, increasing from 668.5 million current Cu\$ in 1970 to 1 644.8 million Cu\$ in 1974 (NBC, 1975, p. 24). As has occurred in

Table 1

CUBA: TOTAL DISBURSED DEBT IN CONVERTIBLE CURRENCY AND INDICATORS OF DEBT BURDEN, 1969-1987

Year	Total debt			Total debt per capita (current pesos)	Total debt as percentage of GSP (percentage)	Debt services ^a	
	Current pesos ^b (millions)	Current U.S. dollars (millions)	Annual change in current pesos (percentage)			Interest only (percentage)	Interest and principal (percentage)
1969	291.0	291	-	34.3	-	...	...
1975	1 338.0	1 632	1969 to 1975 29.0% p.a. 1975 to 1978	142.9	2.1	...	...
1978	2 883.8	3 845	29.2% p.a.	297.7	17.5	19.2	57.7
1979	3 267.3	4 476	13.3	335.0	19.2	19.4	45.3
1980	3 226.8	4 545	-1.2	332.9	18.3	17.7	28.7
1981	3 169.6	4 064	-1.8	325.0	14.3	19.3	35.9
1982	2 668.7	3 140	-16.5	271.0	11.6	21.0	64.7
1983	2 789.7	3 207	4.5	280.5	11.5	20.1	...
1984	2 988.8	3 321	7.1	297.6	11.5	16.5	...
1985	3 621.0	3 936	21.2	356.7	13.5	17.4	41.8
1986	3 870.4	4 663	6.9	379.4	14.1	21.7	67.8
1987 (Sept.)	5 555.1	5 555	43.5	536.7	21.0	...	...

Source: Equipo de Investigaciones sobre Economía Cubana, 1985, p. 55, for 1969 and 1975 debt totals; other figures are taken or calculated from information in tables 2 and 3.

^a"Debt service" is defined as i) interest and ii) interest plus principal as a percentage of total exports of goods and services in the convertible currency area.

^bThe total debt figures in current Cuban pesos are translated into current U.S. dollars using the official exchange rates from table 7.

many countries facing short-lived commodity price booms, it seems to have been difficult to phase down investment and import plans quickly enough after a commodity price decline. This is due perhaps to expectations that commodity prices have ratcheted up to a new level, and to the lagged momentum of actual imports *vis-a-vis* the decision to proceed with specific investment projects. Furthermore, there was a strong inclination on the part of the Cubans to diversify and perhaps to improve the importation of technology embedded in capital goods by increasing imports of these from the market economies (Turits, 1987, pp. 165-166).

The expansion of convertible currency lending to Cuba in the 1970s was probably a significant factor contributing to the impressive growth of the Cuban economy in that decade because it permitted the importation of capital goods from the market economies. By 1978 and 1979, the debt service burden had built up to

high levels —about 58% and 45% of export income respectively, if both interest and principal are included in the debt service concept (see table 1). However, with a renewed sugar price boom on the world free market in 1980 and 1981 (28.7 US cents and 17.0 US cents per lb. respectively, International Sugar Agreement quote, annual average), Cuba's convertible currency exports recovered and reached record levels. This resulted in a major reduction in the debt service burden, despite higher interest rates. This sugar price boom, in effect, outweighed and camouflaged the steadily deteriorating debt burden in terms of rising interest payments and amortization from 1978 to 1981 (see table 1).

By 1979, the convertible currency debt was composed principally of commercial bank loans (59.8%) and official export credits (31.3%). Suppliers' credits —on onerous terms— and development assistance credits —usually on easy terms— were relatively insignificant.

II

The debt situation, 1980-1985: manageable but deteriorating

In the first half of the 1980s, Cuba's convertible currency debt problem appeared to be under control. The total value of the debt actually declined from 1979 to 1982, and when difficulties emerged from 1982 to 1985, negotiations with creditors led to successful reschedulings. Economic growth was buoyant from 1980 to 1985, averaging 7.3% per year (see table 7) despite the problems created by servicing the debt under harsh (convertible currency) balance-of-payments circumstances. The underlying debt and balance-of-payments situation was not really improving, however.

1. *The evolving debt/balance-of-payments situation*

In 1980 and 1981, the debt situation *vis-a-vis* the balance of payments presented little difficulty. The capital and current accounts, each taken

separately, were in balance to a surprising degree; the imbalances that existed offset each other, so that there was virtually no change in convertible currency reserves in either year (see table 2). In both these years buoyant service exports (mainly tourism) and sugar sales counterbalanced imports and interest payments. On capital account, net repayments of long-term capital were close to net inflows of short-term capital. Already the payments problem of the 1980s had begun, however, because this payments balance depended upon export earnings which were unsustainably high as a result of abnormally good "free market" sugar prices in those years.

Cuba's convertible currency debt/balance-of-payments problem became severe in 1982. The immediate cause of the crisis in that year was the reduction of short-term loans and deposits, which declined by Cu\$578 million between

Table 2
CUBA: BALANCE OF PAYMENTS IN CONVERTIBLE CURRENCY, 1978-1987

(Millions of current pesos)

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Current account										
Exports										Jan.-Sept.
Sugar	595	680.3	1 247.7	1 405.8	1 355.9	1 233.9	1 135.7	1 244.4	907.3	716.8
Petroleum reexports	...	...	...	866.3	648.3	263.2	250.0	171.2	209.9	...
Other	...	...	142.7	151.4	262.1	497.7	484.4	526.9	248.5	...
Imports	...	...	...	388.1	445.5	473.0	401.3	546.3	448.9	...
Of which, sugar	-731	-581.4	-881.2	-1 121.5	-750.0	-792.7	-1 063.2	-1 177.4	-1 070.9	-735.0
Trade balance	...	...	...	...	14.1	33.6	-101	-106.4	-89.6	...
Services	-136	98.9	366.5	284.3	605.9	441.2	72.5	67.0	-163.6	-18.2
Exports of services	148	227	237	344	266.6	285	314.6	294.0	296.3	...
Imports of services	-541	-464	-651	-577	-573.0	-464.2	-608.6	-870.9	-531.5	...
Of which, interest	-143	-176	-263	-338	-340.6	-248.2	-240	-268.0	-261.6	...
Balance	-393	-237.8	-412.5	-234.3	-306.5	-179.2	-294.0	-576.9	-235.2	-530.6
Unilateral transfers	6	-	2	0.5	-2.4	0.7	9.9	4.1	1.2	-1.2
Current account balance	-523	-138.9	-46.0	50.5	297.1	262.7	-211.6	-505.8	-397.6	-550.0
Capital account										
Short-term capital										
Disbursements	165	173	134	303	118.0	...	...	348.3	325.1	...
Repayments	-67	-126	-58	-139	-521.8	...	...	-154.5	-437.8	...
Net	98	47	76	164	-403.0	-166.9	-31.8	+193.8	-112.7	-42.4
Long-term capital										
Disbursements	606	187	80	26	29.4	...	...	580.1	482.9	...
Repayments	-219	-101	-96	-142	-165.7	...	...	-220.0	-116.4	...
Net	387	86	-16	-116	-136.3	93.3	137.8	+360.1	+366.5	605.6
Capital account balance	484	+133	60	-52.0	-539.3	-73.6	+106.0	553.9	+253.8	563.2
Change in reserves	-39	-5.9	+14	-1.5	-242.2	+189.1	-105.6	+48.1	-143.8	+13.2

Source: Banco Nacional de Cuba, *Informe económico*, Havana, May 1987, for 1985-1986; Banco Nacional de Cuba/Comité Estatal de Estadísticas, *Cuba: Informe económico trimestral*, Havana, September 1987, for 1987; Banco Nacional de Cuba, *Informe económico*, Havana, March 1986, for 1984; Banco Nacional de Cuba, *Informe económico*, Havana, February 1985; Banco Nacional de Cuba, *Informe económico*, Havana, March 1984, for 1982; Banco Nacional de Cuba, *Informe económico*, Havana, August 1982; Equipo, 1985; ECLAC, *Notas para el estudio económico de América Latina 1982: Cuba* (E/CEPAL/MEX/1983/L.22/Rev.1), Mexico City, October 1983, p. 40, for 1978-1981; Comité Estatal de Estadísticas, República de Cuba, *Anuario estadístico de Cuba*, 1985, Havana, 1986, table XI. 15.

December 1979 and August 1982 (BNC, 1986c, p. 5). This reduction in Cuba's convertible currency liquidity occurred for no obvious reason and was without economic justification in the view of the National Bank, because Cuba had been honouring its financial commitments (BNC, *ibid.*). This heavy short-term capital outflow resulted in a large capital account deficit which could not be fully covered by the current account surplus of that year. While the apparently artificial net outflow of short-term capital looked suspiciously as if it had had political origins, there is little doubt that other lending in 1981-1982 was obstructed and cancelled due to actions of the United States, which was tightening the financial element of its embargo on Cuba (EIU, 1981,2; 1981,3). Compounding the difficulties were a decline in sugar export earnings (offset to some extent by increased petroleum reexports and other exports) and very high interest rates in 1982.

Largely as a result of the decline in short-term bank loans and deposits, Cuba sought a debt rescheduling with its convertible currency creditors. Cuba's initial proposals, summarized in table 6, called for a multiyear rescheduling of all long-term debt maturities falling due in 1982-1985, including both official and commercial bank creditors. A 10-year repayment period was proposed, including an initial three-year grace period. Short-term bank loans were not included in the rescheduling on the assumption that such facilities would not be withdrawn at short notice. Cuba also offered to assume a number of other commitments in its proposal:

- to restrict and if necessary to sacrifice overall economic growth in order to increase convertible foreign-exchange-earning exports and to guarantee essential consumption and medical attention for the population;
- to emphasize productive investment for import-substitution purposes;
- to continue the diversification of Cuba's international economic relations with developed market economy countries (DMEs) and less-developed countries LDCs);
- to promote the exportation of services such as construction.

The agreements reached with official and commercial bank creditors differed from the Cuban proposal mainly in that they covered only

long-term debt maturing from September 1982 to December 1983, whereas Cuba had proposed that the debt maturities for the whole 1982-1985 period be included. This meant that the amount rescheduled was small compared to Cuba's request. It also meant that if external factors did not improve, further reschedulings would be necessary. This eventuality was anticipated and a "Good Will" clause was included in the agreements to facilitate renewed negotiations and rescheduling.

In 1983 and early 1984, Cuba's balance of payments and debt performance continued to be impaired by a number of circumstances in the international economy. These prompted Cuba to avail itself of the "Good Will" clause and to seek the rescheduling of the long-term debt maturing in 1984. Among these circumstances were the following:

- due mainly to climatic factors, sugar production fell, and due to priority sales to non-convertible currency markets, less was available for export for convertible currency (1.34 million metric tons) (BNC, 1984b, p. 16). With sugar prices more or less unchanged, earnings fell by Cu\$385 million;
- interest rates continued to be relatively high, so that relief on this item was reduced;
- net repayments of short-term capital were rather high.

However, the payments situation seemed relatively healthy in 1983. Convertible currency exports of goods and services remained stronger than one would have expected in the light of sugar prices, and the current account surplus exceeded the capital account deficit, so that international monetary reserves increased by Cu\$189 million. Cuba also maintained a growth rate in real terms of 4.9% in 1983 despite the reduction in sugar production.

In the 1984 negotiations, Cuba sought and obtained some improvement in rescheduling conditions (see table 6) so as to be on a par with the general 1983/1984 rescheduling terms available for the rest of Latin America (ECLAC, 1985, p. 19).

Cuba again sought debt rescheduling in 1985 under the "Good Will" clause, even though the balance-of-payments situation in 1984 was reasonably solid and the Gross Social Product grew by 7.2% (real) that year. Although sugar prices

Table 3

CUBA: FOREIGN DEBT IN CONVERTIBLE CURRENCY

(Millions of current pesos)

Year	1979	1980	1981	1982	1983	1984	1985	1986	1987
									Sept. 30
Total disbursed debt	3 267.3	3 226.8	3 169.6	2 668.7	2 789.7	2 988.8	3 621.0	3 870.4	5 555.1
Official bilateral	1 279.9	1 353.6	1 293.7	1 275.8	1 332.5	1 578.7	1 820.4	1 627.8	2 464.8
Intergovernmental loans	236.4	278.7	221.4	198.7	191.7	174.3	135.9	112.8	145.7
Credits for development assistance	21.4	28.3	27.2	28.2	27.4	27.1	32.2	41.2	60.0
Export credits with government guarantee	1 022.1	1 046.4	1 045.1	1 048.9	1 113.3	1 377.3	1 652.3	1 473.9	2 259.1
Official multilateral	-	7.9	15.2	18.2	25.0	17.2	21.5	18.0	22.3
Suppliers' credits	33.2	27.0	33.4	46.8	96.7	228.5	433.2	861.7	1 184.7
Financial institutions	1 952.6	1 837.1	1 826.4	1 327.3	1 334.9	1 164.2	1 345.7	1 362.8	1 883.1
Bank loans and deposits	1 927.7	1 800.8	1 787.2	1 277.0	1 284.5	1 076.5	1 237.9	1 199.2	1 643.0
— Medium and long-term	658.6	562.9	505.3	416.8	495.2	453.6	495.5	457.0	615.0
— Short-term deposits	1 269.1	1 237.9	1 281.9	860.2	789.3	622.9	742.4	742.2	1 028.0
Credits for current imports	24.9	36.3	39.2	50.3	50.4	87.7	107.8	163.6	240.1
Other credits	1.6	1.2	0.9	0.7	0.7	0.2	0.2	0.1	0.2

Source: Banco Nacional de Cuba, *Informe económico*, Havana, March 1986, annex No. 6 for 1979-1984; Banco Nacional de Cuba, *Informe económico*, Havana, May 1987, p. 43 for 1985-1986; Banco Nacional de Cuba/State Statistical Committee, *Cuba: Informe económico trimestral*, Havana, September 1987, for 1987.

fell to very low levels on the "free market" (5.2 U.S. cents per lb., International Sugar Agreement (ISA) quote), increased exports for convertible currency helped maintain foreign exchange earnings. Merchandise imports were permitted to rise by some 34%, however, so that the trade surplus fell short of the services deficit, resulting in a current account deficit, and thence an overall payments deficit and reserve rundown. The rescheduling sought by Cuba was reasonably routine (see table 6). Of particular note, however, were two requests. The first of these was for reduction of tariff and non-tariff barriers by major developed market economy creditor countries, in order to promote the diversification and expansion of Cuba's exports of non-sugar commodities. The second request was for the creation of a US\$60 million fund, with half paid by Cuba and the other half by creditor countries, to finance 120 studies designed to analyse the feasibility of Cuba's exporting a variety of non-traditional exports, including sport items, steam boilers, jewellery and flowers to the creditor countries. The agreement reached with creditors was not particularly notable, and again the terms were in about the middle of the range obtained by other Latin American countries that year (ECLAC, 1985, p. 19). Moreover, only a small proportion of the total debt was covered.

As can be seen in table 2 and 3, the balance of payments and debt situation deteriorated sharply in 1985. Although exports rose somewhat compared to 1984, they were still depressed owing to the very low free market sugar price, which averaged 4.06 U.S. cents per lb. Higher petroleum reexporters and a strong expansion in other exports largely offset the low sugar prices, however. The current account was in serious deficit by over half a billion Cuban pesos, due to the deficit on services. The latter occurred despite generally falling world interest rates: unfortunately Cuba could not take advantage of these, because it was forced by the unavailability of lower-interest short-term bank credit to resort to higher-cost suppliers' credits. Of even greater importance was the appreciation of the currencies (mainly the DM, Swiss franc and the yen) in which Cuba's debt was held, *vis-à-vis* the U.S. dollar and the Cuban peso. The BNC estimated that the appreciation of the real value of Cuba's debt, together with the impact of

rigid interest rates, cost an additional Cu\$582.0 million in 1985. This caused the "Imports of Services" item in the 1985 balance of payments to rise to an unprecedented level. Surprisingly, the huge current account deficit was more than offset by increases in short- and long-term net capital inflows. For this reason, in 1985 total debt increased sharply (by 21%). Its composition had deteriorated (suppliers' credits had grown 16-fold since 1980, while export credits with government guarantee had increased by 58% since that year) and short-term bank deposits plus credits for current imports increased from their 1984 levels.

A significant proportion of the disbursed debt in this period was owed to developing country creditors. In 1983, for example, 33.8% was owed to OPEC and other LDCs, with Argentina as a major creditor (7.5% of the total debt). Of the undisbursed debt, 26.3% was committed to Cuba by other developing countries (BNC, 1984b, pp. 14-15). The major creditors among the developed market economies in 1983 were Spain (with 13.3% of total outstanding disbursed debt); France (12.1%); Japan (11.3%), and the United Kingdom (7.5%). Cuba must be somewhat unique among non-Arab Third World debtor countries in that about one-third of its debt is owed to other developing countries.

2. Underlying strengths and weaknesses of the convertible currency balance of payments

During the whole of the 1980-1985 period, there were certain strengths in the evolution of some components of the convertible currency balance of payments, but also certain weaknesses. The latter ultimately overwhelmed the former by 1985-1986. Among the improvements in the balance of payments was an expansion of "other exports" (with the exception of 1984, when drought and continuing problems with plant diseases reduced coffee as well as tobacco production). This expansion of "other exports" occurred despite continuing tariff and non-tariff barriers in most of the major convertible currency markets; despite the intensification in August 1983 of problems in marketing nickel owing to the tightening of the U.S. secondary embargo which prohibited the importation into

that country of any products including Cuban nickel; and despite the decline of export markets in other LDCs, whose foreign exchange earnings had been reduced due to the recession of the 1980s and diverted to servicing their debts. Service exports in the 1980s were strong, at least in comparison with the 1970s, largely due to increased tourism. However, the growth rate of such exports in the 1980 to 1985 period was uneven and not dramatic (4.4% per annum).

Sugar exports constituted the major problem in Cuba's convertible currency balance of payments. Sugar prices in the world "free market", always unstable, fell sharply from 1980 to 1985, and hard currency earnings from sugar exports dropped by 80% in this period (see table 2). The world free market for sugar is possibly the most pathological and indeed pernicious of international commodity markets and serves the interests of exporters badly. The pathology of the sugar market arises from the fact that major blocs of sugar importers and exporters—including the European Community and ex-Colonies in the "ACP" (Africa, Caribbean and Pacific) grouping, the United States and favoured suppliers in the Caribbean, and the USSR *vis-a-vis* Cuba—have tried to stabilize and insulate their own sugar trading relationships at relatively high prices. This has meant that supply shortfalls or surpluses within these groupings lead to net purchases or sales on the marginal world "free market" which in consequence is remarkably unstable. More serious, high prices in the internal U.S. and EEC markets have discouraged consumption (which for this and other reasons has been declining), encouraged the production of other sweeteners (artificial and corn-based), and promoted high-cost domestic sugar production. In the European Community, other forms of subsidization have also stimulated domestic production. As a result of the pricing and subsidization of sugar production in the European Community, the latter has switched from being a major net importer before 1977 (importing 2.28 million metric tons on average in 1974 and 1975) to becoming a major net exporter (over 3 million tons annually from 1981 to 1983) (UNCTAD, 1987; tables 2.9.1 to 2.9.6). This volume of net exports has helped saturate the world "free market", pushing prices to low levels from 1982 to 1988. With little

prospect of a change in the pricing and subsidization policies within these major sugar producing/consuming blocs, it is likely that the marginal "free market" will continue to be well-supplied, so that prices are unlikely to show an upward trend in the medium-term future—although periodic crop shortfalls and surpluses will continue to generate instability. Cubans have every right to conclude that the world "free market" has not worked for them, but it should also be noted that the insulation of the USSR-Cuba sugar trade contributes to the instability of the residual "free market".

One item of particular interest in Cuba's imports from 1982 to 1985 was the importation of sugar, using convertible currency. These sugar imports, purchased at the "free market" price, were then reexported in order to fulfill long-term contracts with the Soviet Union (BNC, 1985, p. 35; EIU, 1983:4). By purchasing at the free market price and selling at the FOB price to the Soviet Union, Cuba made a profit of around 750 to 900 Cuban pesos per metric ton in 1984 and 1985, and a total profit of around 750 and 1 300 million Cuban pesos in the same years. Therefore, while the sugar import item represents a "weakening" of the convertible currency merchandise trade balance in these years, in fact it permitted major gains on the inconvertible currency trade balance (see the annex for the calculations on which these estimates are based.) These estimates are in nominal pesos at official US\$/Cu\$ conversion rates, and represent an upper limit on Cuban profits. Because the nominal exchange rate is unrealistic, and because rouble earnings must be spent on imports from the USSR or other CMEA countries (whose merchandise exports often are uncompetitive in terms of price and quality), the sugar reexport profit estimates are probably excessive. It remains to be seen how long the USSR and other CMEA countries generously allow Cuba to make middleman profits of this sort.

The most dynamic component of Cuba's convertible currency export performance was the reexportation of petroleum. Petroleum reexports made up 10.8% of total convertible currency exports in 1981, rising to 42.3% in 1985. Petroleum "reexports" are permitted by the Soviet Union on the basis of an agreement which provided that if petroleum consumption and

importation were below previously planned levels as a result of conservation measures and in relation to import levels from the Soviet Union, the petroleum which was "saved" could be "reexported" at world prices and in convertible currency. Interestingly enough, the sole importers in 1983 were other socialist countries—presumably the European neighbours of the USSR (BNC, 1984b, p. 3). This did not mean that petroleum was physically transported back to Eastern Europe. Instead, the transaction was in accounting terms only, with the petroleum shipped directly to the importing country. Cuba was quite successful in reducing petroleum consumption, particularly through the completion of energy systems in the sugar mills which burned bagasse rather than petroleum products. Major efforts were also made to induce fuel conservation throughout the economy by incentive systems to reward enterprises which successfully reduced consumption (in the form of wage bonuses) and to penalize enterprises which consumed too much (EIU, 1982:1, p.8), and by various investments to improve the efficiency of energy use in major petroleum-consuming activities such as nickel mining and thermal electricity generation. Domestic extraction of petroleum also increased significantly in these years.

Under this petroleum reexport scheme, Cuba was able to obtain significant profits, which were perhaps around Cu\$105 million in

1983 and Cu\$20 million in 1984 (see annex table for the estimates). These profits (measured in pesos, but earned in hard currency) are undoubtedly greatly underestimated, because the conversion rate used for the Cuban peso *vis-a-vis* the U.S. dollar is the official rate, which is very much overvalued.

The convertible currency foreign exchange earnings accruing to Cuba under this scheme obviously strengthened the convertible currency export performance. But while real resources were undoubtedly transferred to Cuba through this device, reliance upon such an artificial arrangement is dangerous, first because world petroleum prices could decline—as they did in 1986—thereby reducing or eliminating such arbitrage profits, and second, because the arrangement could be changed by the donor country.

Cuba's external situation in 1985 ended in paradox. Despite the small surplus in the convertible currency balance of payments, the trade deficits for both the socialist and the market economies reached record levels, totalling Cu\$2 000 million (see table 7). The convertible currency debt had thus increased by 17% and its composition had worsened, although economic growth remained reasonably high and investment levels reached 15.8% of the global social product. However, strong economic growth performance was no longer sustainable in view of the severe external disequilibria.

III

The debt crunch, 1986-1988

In 1986, convertible currency exports slumped, the balance-of-payments position worsened, and the debt problem intensified. Cuba responded by suspending payment on the debt on 1 July and proposing a major multiyear rescheduling. It also implemented a set of policies designed to reduce imports through austerity, to promote efficiency by the "rectification" programme, and to continue to increase hard currency foreign exchange earnings. The result of the import shortage and the austerity measures was a

decline in overall economic growth performance in 1986 and 1987, a reduction in investment levels as maintenance of basic consumption levels was given priority, and reductions in productivity.

1. *The size of the convertible currency debt*

By 1986, Cuba's convertible currency debt situation bore some resemblance to that of the rest of

Latin America, although it was still not as burdensome as for other major debtors, and there were also some major differences. Some of the main indicators of Cuba's "debt burden" in relation to other Latin American countries are summarized in table 4. It can be seen that Cuba's total debt was eighth highest in the region in

1987. In per capita terms, Cuba's convertible currency debt in 1986 was lighter than for the main problem debtor countries, but when the debt with the Soviet Union was included, Cuba's per capita debt exceeded the Latin American average significantly. With respect to debt service (interest only) on convertible currency debt,

Table 4

LATIN AMERICA: COMPARATIVE INDICATORS OF DEBT BURDEN

	Disbursed total, 1987 ^a (millions of dollars)	Per capita external debt, 1986 (dollars)	Total debt as percentage of exports of goods and services 1986	Interest payments as percentage of exports of goods and services	
				1985	1987
Latin America	409 815	988	416	35.2	30.5
Oil-exporting countries	167 150	1 203	422	32.2	25.2
Bolivia	4 450	594	647	46.8	40.0
Ecuador	9 600	830	344	27.0	31.1
Mexico	105 600	1 241	457	36.0	27.9
Peru	15 300	738	438	30.0	22.4
Venezuela	32 200	1 956	341	26.2	26.3
Non-oil-exporting countries	242 665	875	412	37.8	33.0
Argentina	54 500	1 584	636	51.1	56.2
Brazil	116 900	775	454	40.0	34.5
Colombia	15 700	487	232	26.3	25.2
Costa Rica	3 800	1 440	269	27.3	19.3
Chile	20 510	1 686	411	43.5	26.7
El Salvador	2 250	450	247	12.9	13.2
Guatemala	2 720	328	225	14.9	16.3
Haiti	740	102	240	7.4	4.6
Honduras	3 145	637	294	16.2	16.5
Nicaragua	6 200	1 496	1 977	13.3	69.9
Panama	4 900	2 161	131	...	...
Paraguay	2 000	480	233	8.3	14.8
Dominican Republic	3 700	577	259	15.4	19.6
Uruguay	5 600	1 630	346	34.3	24.0
Cuba					
1. Convertible currency	5 555	545 (1987)	322	15.6	(21.7) 1986
2. With USSR ^b	8 200	804 (1987)	175	-	- 1986
Total ^{c,d}	13 755	1 349 (1987)	215	4.3	(4.9) 1986

Source: 1. ECLAC, *Preliminary Overview of the Latin American Economy, 1987* (LC/G.1485), Santiago, Chile, December 1987, p. 25, for all information except for Cuba.

2. Banco Nacional de Cuba (BNC), *Informe económico*, Havana, May 1987, for Cuban data.

3. Economist Intelligence Unit, *Country Profile: Cuba, 1987-1988*. London, 1987, p. 25.

4. World Bank, *World Development Report, 1987*. New York, Oxford University Press, 1987, pp. 202-203 for population estimates.

^aTotals for disbursed debt of Latin American countries are preliminary estimates by ECLAC.

^bFor the estimates of Cuba's total debts with the USSR as a percentage of "goods and services exports", only merchandise exports are included, information on trade in services being unavailable.

^cCuba's debts with other countries in Eastern Europe are excluded, so that the "Totals" for Cuba's debt indicators are underestimated.

^dThe exchange rate used for converting Cuba's peso debt to U.S. dollars is Cu\$1.00 = US\$0.73, that is, the average official exchange rate for 1987.

Table 5

CUBA: CONVERTIBLE CURRENCY DEBT, 1978-1986: NET RESOURCE TRANSFERS^a

	1978	1979	1980	1981	1982	1983	1984	1985	1986
Disbursements (inflows)	771	360	214	329	151.0	121.0	199	928.4	808.0
Outpayments									
Interest	143	176	263	338	340.6	248.2	241.0	268.0	261.6
Amortization	286	227	154	281	687.5	-1	-1	374.5	554.3
Total	429	403	417	619	1 028.1	248.2	241.0	642.5	815.9
Net flows	+342	-43	-203	-290	-877.1	-127.2	-42	+285.9	-7.9

Source: Table 2; Banco Nacional de Cuba, *Informe económico*, Havana, March 1986; ECLAC, *Preliminary Overview of the Latin American Economy, 1987* (LC/G.1485), Santiago, Chile, December 1987, p. 23.

^aDisbursements are "net" for 1983 and 1984, i.e., amortization payments are deducted.

Cuba's situation was difficult, but less so than in the case of most other countries. Total debt service, including the zero interest payments on the debt with the Soviet Union, was light compared to the other countries. On the other hand, Cuba's total hard currency debt as a percentage of hard currency exports (322%) was higher than the ratios for about half the other countries, but still below the average for the whole region (416%). A final point might be made concerning Cuba's convertible currency debt situation. From 1980 to 1986, net financial outflows in convertible currency totalled Cu\$1 261 million (see table 5). This net outflow is small relative to the net outflows of resources (net inflows of capital less net payments of interest and profits) for all of Latin America in the same period, which totalled US\$108.2 billion (ECLAC, 1987, p. 23). Nevertheless, Cuba's position in this respect was basically similar to that of the rest of Latin America.

In sum, while Cuba was not a "big league" debtor like Brazil, Mexico or Argentina, it was no longer in the same unique and favoured situation in which it had considered itself to be earlier.

2. Causal factors

The immediate source of Cuba's 1986 difficulties was the decline in the world price of petroleum, which fell by more than half in three months, from US\$26.60 in December 1985 to US\$13.20 by March 1986. This reduced the hard currency value of Cuba's petroleum reexports by almost Cu\$280 million, or by more than half, from 1985 to 1986. The situation was aggravated by the

drought which reduced the 1985-1986 sugar harvest and lowered 1986 sugar exports so that Cuba was unable to capitalize on the improvement in "free market" sugar prices (from 4 U.S. cents in 1985 to 6 cents in 1986, average International Sugar Agreement quote). Moreover Cuba's other exports declined by Cu\$100 million due to a variety of factors including drought, Hurricane "Kate" and low international commodity prices. For all of these reasons, Cuba's hard currency exports fell by Cu\$337 million in 1986. An attempt was made to cut hard currency imports in line with exports, but this was difficult because they had already been reduced to about 70% of the country's estimated requirements, and a proportion of imports had already been contracted for (BNC, 1986b, pp. 11-12).

As a result of this rapidly deteriorating situation, officials of the National Bank (BNC) decided that circumstances necessitated a new rescheduling of the convertible currency debt on a broader basis than those of the previous three years. Cuba's proposals, summarized in table 6, called for rescheduling virtually all medium and long-term debt service commitments to official creditors and commercial banks (including interest as well as amortization) which were to fall due in 1986 and 1987. This amounted to about Cu\$960 million (BNC, 1986b, p. 20). A repayment period of 12 years was requested, with a six-year grace period. Fresh funds amounting to Cu\$430 million were requested for general balance-of-payments support. The rationale for this request was that external factors—nine in all—beyond Cuba's control had caused the hard currency losses. These factors included continu-

Table 6

CUBA: CONVERTIBLE CURRENCY DEBT, RENEGOTIATIONS: A SUMMARY

	1982-1983 negotiations		1984 negotiations	
	Cuba's position (August 1982)	Agreement (1 March 1983)	Cuba's position (March 1984)	Agreement (19 July 1984)
Official creditors (Paris Club)				
Proportion of debt maturities included (medium and long term)	100% (1982 to 1985 maturities)	95% (Sept. 1982 to Dec. 1983 maturities)	100% (1984 maturities)	95% (1984 maturities)
Grace period	3 years	3 years, 10 months	5 years	5 years, 6 months
Repayment period	10 years	8 years, 4 months	10 years, 6 months	9 years, 6 months
Comercial creditors		(30 Dec., 1983)		(13 Dec., 1984)
Proportion of debt maturities included (medium and long term)	100% (1982 to 1985 maturities)	100% (Sept. 1982 to Dec. 1983 maturities)	100% (1984 maturities)	100% (1984 maturities)
Grace period	3 years	3 years, 4 months	5 years	5 years, 7 months
Repayment period	10 years	7 years, 10 months	10 years, 6 months	9 years, 6 months
Financial charges				
Interest rate	-	LIBOR + 2.25%	Reduction sought	LIBOR + 1.88%
Commission	-	1.25%	Reduction sought	0.88%
New lending request	0	0	Cu\$200 million	0
Proportion of debt covered	36% of total debt Cu\$1 057.3 million	53% of debt service	11.4% of total debt Cu\$317 million	40% of debt service
Other conditions	Short-term bank loans to be rolled over Commitment to promote exports, diversify trade ties, emphasize economic efficiency	Renewal till Sept. 1984 "Good will" clause	Confirmation of existing short-term credit levels (Cu\$800 million) by banks	Renewal till Sept. 1985

Table 6 (concluded)

	1985 negotiations		1986 negotiations	
	Cuba's position (February 1985)	Agreement (18 July 1985)	Cuba's position (April 1986)	Agreement (16 July 1986)
Official creditors (Paris Club)				
Proportion of debt maturities included (medium and long term)	100% (1985 maturities)	95% (1985 maturities)	100% (1986-1987 maturities)	100% (principal + interest '82+'83 debt due in 1980)
Grace period	L.A.m. average	6 years, 6 months	6 years	6 years
Repayment period	L.A.m. average	10 years, 6 months	12 years	10 years, 6 months
Comercial creditors		(16 Sept., 1985)		
Proportion of debt maturities included (medium and long term)	100% (1985 maturities)	100% (1985 maturities)	100% (1986-1987 maturities)	No agreement with bank creditors
Grace period	L.A.m. average	6 years, 8 months	6 years	
Repayment period	L.A.m. average	10 years, 8 months	12 years	1 March, 1988
Financial charges				
Interest rate	L.A.m. average	LIBOR + 1.5%	No change proposed	
Commission	L.A.m. average	0.38%	No change proposed	
New lending request	0	0	Cu\$430 million balance-of-payments support	
Proportion of debt covered	7.7% of total debt	29% of debt services	All medium and long-term debt service, 1986-1987: Cu\$961 million	
Other conditions	Agreement by creditor nations to lower tariffs and NTBs and promote expansion and diversification of trade	No action	Postpone 1986-1987 interest to 1992	
	Roll over of short-term bank loans granted before 1 Sept. 1982	Renewal till Sept. 1986	Debt service suspended, 1 July 1986 pending agreement	

Source: Banco Nacional de Cuba (BNC), *Informe económico*, Havana, August 1982, March 1984 and February 1985; Banco Nacional de Cuba, *Cuba: deuda externa y su proceso de renegociación*, Havana, December 1986; J.L. Rodríguez, "El desarrollo en Cuba en el contexto de la crisis económica latinoamericana de los años 80", *Temas de economía mundial. Revista del CIEM*, No. 17, Havana, 1987; ECLAC, *Preliminary Overview of the Latin American Economy, 1985* (LC/G.1383), Santiago, Chile, December 1985.

ing low sugar prices, low oil prices, continuing protectionism on the part of the developed market economies, Hurricane "Kate", drought etc. (BNC, 1986b, pp. 16-18).

Agreement was reached with the Paris Club of official creditors by 16 July 1986, but could not be achieved with the commercial banks. The agreement with the Paris Club covered a smaller volume of debt than Cuba had proposed initially. Only that debt existing in 1982 or renegotiated in 1983 and falling due in 1986 was to be rescheduled, rather than all 1986 and 1987 maturities. The Paris Club creditors did provide about 75 million pesos of fresh funds, but this was far short of the amount requested (EIU, 1987:4, p. 11). The repayment conditions were close to Cuba's initial request. Because of the failure to obtain a multiyear rescheduling, new negotiations were requested for 1987.

The rescheduling of commercial bank debt failed because the banks' proposals fell far short of Cuba's requests, and compromise was not achieved. The banks offered fresh funds amounting to DM 150-170 million (57-65 million pesos) (BNC, 1986c, p. 12) in comparison with the 430 million peso initial request. These fresh funds were to be linked to interest payments, and amounted to an interest capitalization scheme. The banks proposed to reschedule only the 1986 maturities of the debt in effect in 1982 (for 10 years with a six-year grace period), plus a two-year rescheduling of the 1986 maturities of that debt renegotiated in 1983. When these differences could not be resolved, Cuba suspended payment on both principal and interest.

3. *The policy response and results*

By early 1986, it was clear that the overall convertible currency payments imbalance was neither sustainable nor renegotiable and that a strong adjustment programme to deal with the convertible currency debt problem was necessary. The policies adopted in 1986 could be categorized under the labels "austerity", "rectification" and "restructuring for hard-currency conservation".

A detailed "austerity" policy package was presented and adopted in December 1986 at the National Assembly of People's Power. It was intended to be a complement to the Develop-

ment Plan and Budget for 1987. The austerity programme included a variety of elements designed to increase exports or reduce consumption of certain hard currency import-intensive commodities (BNC, 1986c, pp. 15-16):

- monthly import quotas of kerosene (used mainly for cooking) were to be cut in order to reduce convertible currency imports by 35 000 metric tons (or 256 550 barrels);
- 10 000 000 m² of textiles were to be diverted from domestic consumption and made available for export;
- domestic sugar consumption quotas were to be reduced in order to increase exports;
- television programming was to be reduced by 29 hours per week to save oil (used for thermal generation of electricity) in order to make 130 000 barrels of petroleum available for reexport;
- electric power rates were to be raised to reduce oil consumption and increase reexports;
- gasoline allocations for State administrative activities were to be reduced by 20% to permit more oil reexports;
- food quotas were to be reviewed and reduced, and allocations of imported foodstuffs to workers' dining rooms and day-care centres were to be cut.

Other items included increases in some retail prices, especially on the "parallel market", and higher interurban bus fares. Perhaps the most important part of the policy package was the proposal to limit hard currency imports to Cu\$600-700 million per year (far below the Cu\$1.3 billion hard currency import levels which the Cubans considered necessary). The growth rate of the economy was also to be limited to between 1.5 and 2.0% for 1987 (BNC, 1986c, p. 15). This constituted a set of self-imposed measures, as drastic as those of the IMF, aimed particularly at the convertible currency problem but also designed to improve internal finances. To moderate the impact of these measures on income distribution, the minimum monthly wage was increased from 85 to 100 pesos per month, and incomes at the bottom end of the wage scale were raised, affecting perhaps 180 000 workers. Pensions were also increased to 100 pesos per month, affecting perhaps 350 000 persons (EIU, 1987:1, p. 10). At the

same time, the official perquisites of higher-level bureaucrats, such as access to State vehicles, were cut back, and such individuals were required to buy the vehicles and cover their running costs. Similarly domestic "per diems" and hard currency foreign travel allowances were reduced. The reconsideration of work norms and salary scales under the "rectification" programme was also designed to reduce anomalous inequalities and injustices.

It is also likely that the "rectification" programme begun at the February 1986 Third Party Congress was inspired at least in part by the difficulties arising from the debt/balance-of-payments problem. This programme, intended to "correct errors" in the administration of the socialist economy but not to change its basic orientation, has emphasized i) the rationalization of work norms, wage and salary scales, bonus payment schemes and perquisite arrangements; ii) the eradication of certain corrupt practices such as in the procurement of building materials for private house construction; iii) the elimination of certain —but not all— private sector activities, notably the farmers' markets, in an effort to reduce the accrual of large incomes by middlemen and large farmers, with visibly demoralizing effects on other workers; iv) the austerity measures mentioned previously. Perhaps one of the most important results of the "rectification" programme, however, is the highly critical attitude which seems to prevail in evaluation and self-evaluation at the numerous "Asambleas del Balance del PCC" (meetings of the Cuban Communist Party for performance evaluation) held at various levels from enterprise to Ministry, and at other meetings of Ministry directors (see, for example, *Granma*, 9 February 1988, which describes a session of the annual meeting of directors of the Ministry of Basic Industry). This reawakened critical attitude should prove useful in making the current economic administration operate more efficiently (although it will not help solve systemic difficulties such as the lack of a single realistic exchange rate, the existence of which would permit export and import decisions to be made more easily and on the basis of economically realistic criteria).

The third element in Cuba's approach to the hard currency debt/balance-of-payments prob-

lem has been to promote exports of goods and services and to try to accelerate the completion of major import-substituting investments. For example, tourism, which has expanded rapidly in the 1980s and become a major hard currency earner (with 91% of its total earnings of Cu\$107.6 million in 1986 being in convertible currency (BNC, 1987, p. 20)), continues to be a high-priority sector and has received substantial new investment and critical attention. Major efforts have been put into projects to expand nickel production, which have been subject to delays so far in the 1980s but which should come on stream soon. Domestic crude oil extraction received considerable emphasis and has expanded rapidly, at a rate of 26% per year from 1980 to 1985. Recent extraction levels are 1 million metric tons (7.33 million barrels) per year, or approximately 15% of consumption (EIU 1987:4, pp. 12-13). Efforts are also being made to expand the direct use of local crude oil wherever possible, e.g., in power generation and cement making (EIU, 1987:2, p. 13). Expansion of oil extraction would be of immense value to Cuba, and now does not seem to be improbable in the light of the geological features of the Caribbean basin and preliminary surveys. The nuclear plant for the generation of electricity has been particularly slow in coming on stream. It was expected to do so in late 1985 but is still far from completion. When completed, it should save some 33% of crude oil imports (EIU, 1984:4). Emphasis on the speedy completion of all these major projects should improve the convertible currency balance-of-payments situation by the early 1990s.

Despite the actions undertaken to improve the convertible currency debt/balance-of-payments situation in 1987, the results seem to have been disappointing, although a definitive statistical picture is not yet clear. The austerity programme which was designed to improve the convertible currency foreign exchange situation was implemented quickly and effectively in 1987. Through reduction in imports and increases in exports and reexports it generated 33 million pesos worth of hard currencies in that year. It improved the State budget by an estimated Cu\$266.3 million, and it improved the "balance of income and expenditures" (i.e., it reduced net monthly income and relieved the

pervasive suppressed inflation) by some Cu\$215 million (BNC, 1988c). Unfortunately, the hard currency impact of the austerity programme was small compared with the total value of convertible currency imports and exports, so that it provided only minimal relief from the debt problem.

Investment was reduced by almost 27% in 1987 in order to reduce capital goods imports from hard currency countries (see table 7). Indeed, total investment including inventory change fell by 46.6% from 1985 to 1987 (BNC, 1988c, p. 4). The decline in investment was due largely to a reduction in the initiation of new projects, while the completion of ongoing projects was given a high priority. The cutback on investment expenditures had a major impact on the construction sector, the output of which fell by over 11% in 1987 (BNC/CEE, 1987, p. 10).

The shortage of hard currency foreign exchange also led to reduced imports of intermediate inputs as well as replacements and spare parts. This reduced levels of output in a number of areas in 1987, while the climatic disturbances of 1985-1987 contributed to the reduction in agricultural output in that year.

As a result of all of these factors —the austerity programme, the investment cutback, reduced imported inputs, and the climate—the gross social product contracted by 3.5% in 1987, or by 4.5% in per capita terms (BNC, 1988c, p. 3). At the same time there was a major decline in labour productivity (-4.7%). The resulting economic contraction was in sharp contrast with the positive growth rate of +1.5 to 2.0 which had been previously anticipated for 1987. Implementation of the "rectification" programme was well underway in that year, but this programme could not be expected to yield significant or measurable results in a period of time as short as 18 months.

The convertible currency balance of payments showed some improvement in 1987, with preliminary estimates indicating that exports rose to Cu\$990 million, an amount exceeding that for 1986 but below that for 1985 (BNC, January 1988a, p. 1.). The 9% increase *vis-à-vis* 1986 was due to some recuperation of sugar and petroleum prices and a 9% increase in non-sugar exports, while imports from hard currency areas declined somewhat. The deficit in the services

category rose sharply despite a 10% increase in hard currency tourism revenues and despite the moratorium on interest payments. The main reason for the large services deficit, and also the large current account deficit, was the fact that an allowance of Cu\$377 million had to be made for the appreciation of creditor countries' currencies or "exchange rate adjustment", which enters the balance of payments as a negative item under the trade in services. On capital account, there was a large net inflow of long-term capital, presumably representing disbursements of previously-negotiated loans, together with very low repayment of loans due to the moratorium. Overall, the payments balance is estimated to have been slightly positive for 1987 (see table 2), but it should be emphasized that this only occurred because interest and amortization payments on the debt had largely ceased.

On the other hand, the convertible currency debt picture worsened sharply in 1987. The total peso value of the debt increased by 43.5% between 1986 and 1987, or by Cu\$1.68 billion. The largest part of this increase occurred as a result of the significant devaluation of the Cuban peso used for trade and debt accounting purposes against all major DME currencies, including the U.S. dollar, which was itself depreciating (BNC-CEE, 1987, p. 29). By devaluing this exchange rate from US\$0.83 per Cuban peso to US\$1.00 per peso, about 1.1 billion pesos were added to the convertible currency debt. There is no evidence that the value of Cuba's hard currency debt as denominated in pesos was adjusted in this fashion before 1987, and it certainly was not in the 1980-1985 period, when the appreciation of the U.S. dollar would have led to a corresponding downward adjustment of the magnitude of the debt (as may be seen from table 1). Unfortunately, details on the methodology and specific rationale for tying the value of the peso-denominated debt to the value of the U.S. dollar are not available.

By the beginning of 1988, a large volume of debt arrears had been built up due to the moratorium, including Cu\$2 105 million in principal and Cu\$356 million in interest (BNC, 1988c, p. 3). With Cu\$1 212 million in principal and Cu\$505 million in interest coming due in 1988, the total value of debt repayment theoretically necessary for 1988 would be Cu\$4 178 million,

Table 7

CUBA: MAJOR MACROECONOMIC INDICATORS

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987 (to 30 September)
Global social product (real)										
Growth rate (percentage)	7.3	1.5	-0.5	16.0	3.9	4.9	7.2	4.6	1.4	-3.5
Per capita growth rate (percentage)	6.3	0.7	-0.6	16.0	3.1	3.8	6.1	3.6	0.3	-4.5
Investment (real)										
Growth rate (percentage)	-5.5	-0.6	5.3	20.0	-11.5	+13.8	+17.0	+7.5	-10.0	-26.7
As a proportion of GSP (percentage)	14.2	13.9	14.8	15.3	13.0	14.1	15.4	15.8	-	-
Productivity change^a										
Output per worker (percentage)	-	-	-	+17.4	-1.1	+3.5	+5.6	+3.5	-2.5	-4.7
Merchandise trade (millions of Cuban pesos)										
Socialist economies:										
Exports	2 916	2 884	2 786	3 179	4 172	4 765	4 909	5 323	4 699	4 467
Imports	2 849	3 053	3 613	4 114	4 908	5 414	6 072	6 718	6 412	4 775
Balance	67	-169	-827	-935	-736	-649	-1 163	-1 395	-1 713	-308
Market economies:										
Exports	524	615	1 181	1 045	761	770	568	660	626	428
Imports	724	635	1 014	1 000	623	808	1 155	1 265	1 156	607
Balance	-200	-20	-167	+45	+138	-38	-587	-605	-530	-179
Convertible currency: balance	-136	+99	+367	+284	+606	+441	+73	+67	-164	-18
Exchange rates										
Official rate (Cu\$/US\$)	.75	.73	.71	.78	.85	.87	.90	.92	.83	1.00
Latin America: Growth rate of per capita gross domestic product (percentage) (excluding Cuba)										
			2.8	-1.9	-3.7	-4.8	1.4	1.1	1.4	0.5

Source: State Statistical Committee (CEE), *Anuario estadístico de Cuba*, 1985, Havana, 1986, pp. 100, 161, 193, 381; BNC-CEE, *Cuba: Informe económico trimestral*, Havana, September 1987, p. 11; BNC, *Informe económico*, Havana, May 1987; ECLAC, *Preliminary Overview of the Latin American Economy, 1987* (LC/G.1485), Santiago, Chile, December 1987; ECLAC, *Preliminary Overview of the Latin American Economy, 1985* (LC/G.1383), Santiago, Chile, December 1985.

^aChange in gross output per worker, at constant 1981 prices, prices at enterprise, and average workers per year.

that is, about 400% of the hard currency foreign exchange earnings for 1987. Clearly this is an impossible task under any foreseeable balance of payments scenarios for 1988. It was in this context that Cuba again approached the Paris Club of creditors in January 1988. At these meetings, the Government of Cuba requested that virtually all official bilateral credits maturing in 1987 and 1988, together with interest due but not paid before 31 December 1988, be rescheduled for 15 years including a 5-year grace period. By mid-March 1988, agreement had not been reached.

4. Prospects and policy options

Cuba's convertible currency debt and balance-of-payments situation will be difficult but no hopeless for the next few years. A major debt rescheduling is urgently required in the short term. In the longer term, a lasting resolution of the current problem will require a more ambitious adjustment or restructuring programme than has been considered so far.

The immediate difficulties in 1988 are daunting:

- foreign trade is of necessity conducted on a cash-only basis due to lack of foreign exchange and drying up of credit sources;
- the debt service burden plus arrears for July 1986 to 1988 is overwhelming, at over 400% of annual convertible currency foreign exchange earnings;
- asphyxiation of production due to shortages of imported inputs and capital goods from hard currency areas will continue to damage growth prospects;
- the lucrative petroleum and sugar reexport schemes are vulnerable to changes in tolerance of them by the Soviet Union, as well as lower prices in the case of petroleum;
- world "free market" sugar prices are unlikely to improve markedly for any length of time, unless there are major changes in bloc protectionism.

On the other hand, there are a number of factors which should have modestly beneficial impacts on the overall and the hard currency debt and balance-of-payments situations. These include:

- probable increases in tourism;
- expansion of nickel concentrate production

and exports by about 30% in terms of volume;

- probable increases in sugar production volumes, provided the weather is not inclement;
- priority investment projects in export activities (citrus packing houses, fish processing facilities, tourist hotel refurbishment, and sugar) which should assist export expansion in the medium term;
- prospective increases in petroleum extraction and refining, which should reduce oil imports and/or permit increased reexports;
- the future start-up of petroleum-saving nuclear energy generation.

Unfortunately these positive factors are of limited short-term impact, while Cuba faces an immediate liquidity shortage. The positive factors should be of some benefit in the 1989 to 1992 period, but in the meantime Cuba must obtain hard currency foreign exchange for current use.

A major rescheduling of the hard currency debt appears to be unavoidable. Such a rescheduling would stretch out payments for 1988 maturities and arrears over a long period of time. It would add significantly to the magnitude of the debt because 1988 interest and interest arrears—some Cu\$861 million in total—would be "capitalized", that is, covered by increased loans. "Interest capitalization" is unfortunate but probably necessary. Provision of "fresh money" for immediate uses would also be useful. A major consolidation of debt in the rescheduling to replace high-cost suppliers' credits with lower-cost long-term bank credits would be desirable as well.

Cuba is unwilling to place itself under the scrutiny, monitoring, or policing of the International Monetary Fund or World Bank (it is not a member of either of these agencies) or any other such body. On the other hand, the commercial banks and the public financial institutions of the Paris Club require some assurance that Cuba is undertaking internal policy initiatives which will permit it to earn hard currency foreign exchange and eventually service the debt successfully in the long run. This means that Cuba itself must design, implement and report on its own structural adjustment programme so as to satisfy its creditors. Cuba effectively performed

all of these functions in the austerity programme adopted in December 1986. As noted, that programme was well implemented, but the benefits it produced were small relative to what was needed. A more ambitious structural adjustment programme is required.

Cuba has already adopted some of the features of such an adjustment programme, including investment projects to expand exports and substitute for imports and schemes for reducing direct consumption of imported commodities. What is now necessary is a major expansion of this programme with special attention to exports and to the country's convertible currency needs. How can Cuba's hard currency export earnings and import savings be increased? This is a difficult task and one which has preoccupied Cuban policy-makers for some years. It is a task made more difficult because it requires large amounts of what it is supposed to generate, namely hard currency. In the medium term, the hard currency foreign exchange situation should improve as the various export and import-substituting projects mentioned earlier come on stream. In the longer term, export earnings (especially in hard currency) will need to be further increased if the convertible currency debt is to be serviced and worked down and if adequate levels of imports from the DMEs and LDCs are to be maintained. In this endeavour, normalization of trade relations with the United States would be useful in providing a good market for a variety of non-sugar and non-traditional exports as well as a major source of tourism. Unfortunately the termination of the U.S. embargo will be decided in Washington, not Havana, and its timing cannot at present be predicted.

A number of policies could be adopted by Cuba to strengthen its participation in the international non-CMEA economic system. These would include a continued dedication to investment projects generating or conserving hard currency, a new exchange rate policy, and a new system of linking enterprises more closely to

foreign producers in order to improve product design and quality from the standpoint of foreign purchasers. An exchange rate reform would likely involve a major devaluation, together with unification of the current multiplicity of exchange rates. Improving the linkages of enterprises with their foreign markets would involve a major decentralization of decision-making regarding product design, pricing, input procurement and marketing. If both these types of action were taken, this would imply significant movement towards decentralization and marketization. The likelihood of significant movement in these directions can only be the subject of speculation at this time, but they may not be out of the question.

In the meantime, if a major rescheduling of the hard currency debt with official and commercial bank creditors is not achieved, Cuba faces some difficult choices. Unilateral repudiation is still unlikely, even though part of the basis for President Castro's rejection of this alternative for Cuba has changed: Cuba is not and does not perceive itself to be in a strong enough economic position at this time to service the hard currency debt except at unacceptably high cost in terms of popular living standards. This being the case, the option associated with President Alan García of Peru—that is to say, to unilaterally agree to service the debt ultimately but at a reduced level—would appear to be attractive. In Peru's case, the debt service is limited to 10% of foreign exchange earnings. A variant of this approach might be appropriate for Cuba. Certain other devices might also be useful in working down the debt, including countertrade arrangements in which creditor banks accepted repayment in kind, or schemes in which creditor banks agreed to purchase additional Cuban exports for hard currency when part of the debt was repaid (ECLAC, 1987, p. 9). (Debt-for-equity swaps probably have virtually no role to play in the Cuban case, although the existence of foreign investment legislation in Cuba would indicate that such swaps may not be impossible.)

Annex

CUBA: PETROLEUM AND SUGAR REEXPORTS: PRICES, QUANTITIES AND ESTIMATED PROFITS

	1980	1981	1982	1983	1984	1985	1986	1987
Sugar								
Imports:								
Price (US\$ per lb)	.287	.170	.084	.085	.052	.041	.060	.066
Cu\$/metric ton	454.	302.	159.	163	103.	83.	110.	146.
Total value (Cu\$/million)	-	-	14.1	33.6	101.0	106.4	89.6	138.0
Quantity (thousands of metric tons)	-	-	88.8	206.0	975.0	1 419.4	812.8	945.0
Reexports: (to USSR)								
Price (Cu\$/metric ton)	759.	606	658.	873.	868.	986.	850.	850.
Quantity (thousands of metric tons)	-	-	88.8	206.	975.0	1 419.4	812.8	945.0
Profit per metric ton (Cu\$)	...	...	499.	710.	765.	903.	740.	704.
Total profit (Cu\$/million)	...	...	44.3	146.3	745.9	1 281.4	601.5	665.2
Petroleum								
Imports: (from USSR)								
Price (Cu\$/metric ton)	83.20	102.70	125.80	147.0	174.2	175	175	175
Total value (Cu\$/million)	878.6	1 139.2	1 468.0	1 824.8	2 169.7	...	...	...
Quantity (thousands of metric tons)	10 564	11 089	11 668	12 410	12 458	...	...	...
Reexports:								
Price (US\$ per barrel)	28.50	32.50	33.48	29.30	27.53	26.50	13.54	17.43
Cu\$/metric ton	150.00	191.50	210.80	186.60	181.60	180.00	82.40	127.80
Quantity (thousands of metric tons)	...	790.5	1 243.3	2 666.9	2 666.9	2 926.9	3 016.6	3 000.0
Total value (Cu\$/million)	...	151.4	262.1	497.7	484.4	526.9	248.5	383.4
Profit per metric ton (Cu\$)	...	88.8	85.0	39.6	7.4	5.0	-92.6	-47.2
Total profit (Cu\$/million)	...	70.2	105.7	105.6	19.7	14.6	-279.3	-141.6
Exchange rate used								
Cu\$/US\$	.717	.804	.859	.869	.90	.92	.83	1.00

Source: Banco Nacional de Cuba, *Informe económico*, Havana, May 1987, p. 25; Comité Estatal de Estadística, República de Cuba, *Anuario estadístico de Cuba*, 1985, Havana, 1986, p. 409; Economist Intelligence Unit, *Quarterly Economic Review of Cuba, Dominican Republic and Haiti*, No. 4, London, 1986, p. 12; Banco Nacional de Cuba/Comité Estatal de Estadísticas, *Cuba: Informe económico trimestral*, Havana, September 1987.

Notes: 1. Conversion factors used: 1 metric ton = 2 204.6 lbs; 1 metric ton of oil = 7.33 barrels.

2. The exchange rate used for currency conversions is the official rate "Contra Certificado de Divisas Indirecto", the rate used for balance of payments and debt accounting purposes. The series indicates devaluation against the U.S. dollar (which was appreciating) from 1980 to 1985, followed by a peso appreciation in 1986. In 1987 there was a major peso devaluation against the U.S. dollar despite the fact that the dollar itself was devalued that year. The fact that, at these official exchange rates, large losses on petroleum reexports were occurring but that trade was being continued only indicates that the exchange rate is seriously overvalued. With a more realistic exchange rate (e.g., US\$1 = Cu\$2) the import price of sugar would be increased and the reexport profits reduced, while the reexport price of petroleum and hence reexport profits would be increased in terms of Cuban pesos.

IV

Summary and conclusions

Cuba's convertible currency debt, which increased rapidly in the 1970s, was manageable without major difficulty from 1980 to 1985, albeit with three reschedulings. In retrospect, however, the underlying hard currency balance of payments was being strengthened somewhat artificially by petroleum reexports which were ultimately unsustainable. The rapid economic growth from 1981 to 1985 was not accompanied by sufficient improvements in convertible currency foreign exchange earnings or savings. In early 1986, the seriousness of the underlying problem became apparent, as petroleum reexports fell by over half (due to the fall in world oil prices) while other non-sugar exports also declined. Cuba was unable to service its hard currency debt, except at unacceptable cost, and therefore declared a moratorium on commercial bank debt on 1 July 1986.

Since 1986, the basic hard currency debt and balance-of-payments situation has improved very little despite a well-implemented and self-

imposed austerity programme, despite the commencement of the "rectification" process, and despite major attempts to channel investment towards foreign exchange-generating or conserving projects and towards projects nearing completion. Rates of economic growth declined, reaching -3.5% in 1987 in comparison with a targeted rate of +1.5 to 2.0% for that year. By early 1988, the situation was grave, with payments for 1988 plus arrears amounting to about 400% of expected hard currency foreign exchange earnings, and with major risks of further deterioration which appear likely to overwhelm some more positive factors in the short run. A major rescheduling is urgently required, but this had not been achieved by late March 1988. In the absence of such a rescheduling, a continuation of a unilateral repayments moratorium by Cuba may occur. However, it is more likely that Cuba may adopt a "Peruvian-style" approach in which it agrees to repay the debt, but at a level of servicing deemed reasonable in terms of Cuba's ability to pay.

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Food security: trends and impact of the crisis

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The world food market has lost the noteworthy stability that characterized it in the 1950s and 1960s. The "shortage crisis" of the 1972-1974 period was followed by an "oversupply crisis", with strongly destabilizing effects on international prices. The first crisis aroused an intense interest in seeking formulas to cover the gap between effective domestic demand and domestic supply, so as to stabilize consumption. The transition to a market of abundant supply with falling prices relegated to second position the subject of food security, understood in traditional terms, and shifted priority to measures aimed at tackling the persistence of under-consumption and malnutrition in vast sectors of the population, even in countries with a sufficient aggregate supply.

As a result of the crisis affecting the countries of the region today and the recessive nature of the adjustment policies imposed, problems of both national availability and individual access must now be considered as constituent factors of food insecurity. Along with proposing a concept of food security that includes both types of problems, this article seeks to evaluate, in the light of a series of indicators, the degree of sufficiency, stability, autonomy, sustainability and equity that has characterized food systems in recent decades and during the crisis itself.

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Introduction

The spectacular increases in agricultural prices and the decline in the reserves/consumption ratio to unheard-of levels caused the 1972-1974 period to be labelled a "shortage crisis", and food security took over the top rank among international concerns. Given the type of phenomena that lie at the root of such concerns, food security was seen as being equivalent to the capacity of deficit countries to attain stable levels of domestic supply that were not significantly lower than the trend levels of effective demand (Valdés, 1981, p. 1).

In less than a decade, however, the world food market went from a shortage crisis to an oversupply crisis,¹ with a consequent replenishment of stocks and a drop in the real prices of the main tradeable foods. Thus, the problem lost the pre-eminent importance which it had had in international forums since the mid-1970s. At the same time, however, a healthy reconsideration of what should be understood by food security has taken place. There is now an awareness that aggregate supply, however generous and stable it may be, is not enough to assure *universal access* to basic foods to a population which lacks the purchasing power to buy them, and that this is one of the chief manifestations of food insecurity in most of the countries of the region.

The emphasis placed on the question of access does not imply that the problems of aggregate supply that emerged at the beginning of the 1970s have been surmounted, nor that the world food market has recovered the stability that it exhibited traditionally until the outbreak of the "shortage crisis". On the contrary, despite the decline in international prices the world market for the principal grains has become very volatile or, if preferred, extremely sensitive to small variations in supply. Moreover, the countries of the region have witnessed an increase in their degree of dependence and a serious deterioration in their import capacity, as a consequence of the size of their foreign debt servicing burden. The incorporation of problems of individual

¹On the main causes for this change, see ECLAC (1988), pp. 20-32, and G. Miller (1986).

access and aggregate availability into more recent definitions of food security is therefore fully justified.

For analytical purposes, it would be convenient to distinguish four substantive ways in which the food security problem is manifested, two related to aggregate availability and two to food access: i) conjunctural maladjustments of aggregate availability, which refer to the presence of cyclical gaps between the levels of food production and demand; ii) structural imbalances of aggregate availability, which refer to the presence of persistent and increasingly frequent gaps between production and demand; iii) cyclical or seasonal problems of access, which refer to occasional difficulties, regular or not, encountered by given families in meeting their basic nutritional requirements, and iv) structural restrictions on access, which refer to the presence of

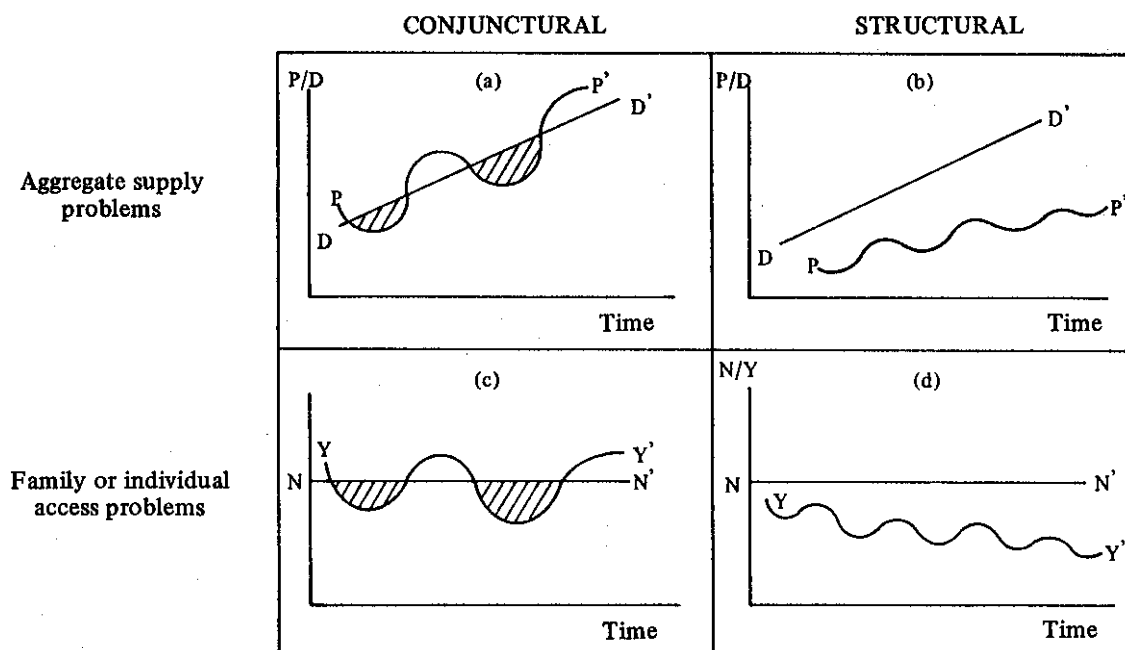
a systematic gap between nutritional needs and the income available for food consumption in given social sectors (figure 1).

Although these problems can exhibit varying degrees of interdependence in each national situation, they are strictly speaking determined by distinct specific factors, so their solution demands the adoption of very different types of measures.

An examination of the problems affecting aggregate supply (national and/or regional and/or local) must take account of the following variables: i) the *degree of sufficiency* with which the supply meets predetermined levels of demand; ii) *seasonal factors* of domestic supply and of its main components; iii) the *autonomy* (or in contrast the external dependence) of food systems, and iv) the *sustainability* of the current patterns of supply and demand in the long run.

Figure 1

TYPES OF FOOD SECURITY PROBLEMS



DD' : Effective demand
 PP' : Production
 NN' : Food needs
 YY' : Income available for food purchases

An analysis of the problems of family food access—which are linked to the *equity* of the food systems— involves an evaluation of the

degree to which the distribution of food "entitlements" leads to malnutrition and/under-consumption.²

I

Food security trends

In the following pages, an attempt is made to evaluate what has been happening in the field of food security since the early 1960s. The first stage covers the trends observed in the preceding decades and the second, what has been happening since 1980. Thus, an attempt is made to distinguish between structural trends of food systems and trends attributable to the current crisis.

1. Levels of sufficiency

The type of food system that can be considered sufficient is one that, through domestic production and net imports, generates an aggregate supply capable of covering not only the existing effective demand but also the basic food needs of the low income strata which are not manifested on the market. This must be achieved without affecting long-term sustainability, desirable degrees of autonomy, or the minimum conditions of equity of access.

The greater the prevailing inequality in income distribution, the greater the requirements that must be met in order to reach the level of sufficiency, *ceteris paribus*. Every time a segment of the population falls below the normative level adopted—whatever it may be—the overall availability must be correspondingly higher than the average intake in order to ensure general satisfaction of calorie requirements.

A simple way of evaluating the levels of sufficiency consists of comparing the per capita supply of food energy available for human consumption (FES)—which assumes that it is taken to be representative of effective demand—with some estimate of requirements.

For the estimates presented here, the figures on availability (FES, measured in Kcal/per capita/day) published by FAO in its Food

Balance Sheets have been used;³ while for normative requirements, those established by the ECLAC Statistical Division in order to update estimates of poverty lines have been adopted.⁴ In short, what we have called the base norm (BN) stipulates the calorie level required by a person whose weight, height and activity are representative of the population as a whole.

With this information, and for comparative purposes, we put together the following levels or degrees of sufficiency and/or insufficiency.

- i) critical insufficiency: $FES < 0.95 \text{ BN}$
- ii) insufficiency: $0.95 \text{ BN} < FES < 1.0 \text{ BN}$
- iii) precarious sufficiency: $1.00 \text{ BN} < FES < 1.1 \text{ BN}$
- iv) full sufficiency: $FES > 1.1 \text{ BN}$

The application of these criteria to the FES average during the 1960-1980 period leads to the conclusion that half of the 20 Latin American countries considered in our analysis showed levels of full sufficiency, while 20% were in a critical state (table 1). Among the first group of countries are Brazil, Argentina and Mexico, the largest countries in the region. At the other

²Sen (1982) presents an interesting conceptualization of the subject of the nature and sources of food entitlements.

³In these sheets it is assumed, with respect to almost all foods, that food energy supply for human consumption (FES) = Domestic production + Imports - Losses + Changes in stocks - Industrial use - Animal feed - Exports. Three-year averages of the variables indicated, expressed in Kcal/per capita/day, are presented.

⁴The following items were used for this purpose: the new recommendations on energy requirements prepared by a Joint FAO/WHO/UNU expert consultation (1985); the most recent census and occupational data (for determining requirements according to sex, age and type of activity), distinguishing between urban and rural areas, and, finally, income distribution and the composition of expenditure, with the aim of incorporating the consumption patterns of the lower-income population (see ECLAC, 1988).

Table 1

**LATIN AMERICA AND THE CARIBBEAN: LEVEL AND TREND
OF FOOD SUPPLIES, 1960-1980**

Availability	Levels of sufficiency			
	Critical insufficiency	Insufficiency	Precarious sufficiency	Full sufficiency
Growing	Ecuador Bolivia	Dominican Republic	Venezuela Colombia	Trinidad and Tobago Cuba Jamaica Mexico Costa Rica Paraguay
Growing moderately	Guatemala	Honduras		Brazil
Constant			Panama	Chile Argentina
Decreasing	Haiti	Peru		Uruguay

Source: ECLAC/FAO Joint Agriculture Division.

extreme are Ecuador, Bolivia, Guatemala and Haiti. On the other hand, in the course of the period the degrees of sufficiency registered advances in the majority of the cases. Only in Haiti, Peru and Uruguay did this ratio deteriorate, while the stagnation experienced by Panama and Chile continued.

2. Stability

The concept of stability refers to the intensity of the fluctuations to which aggregate availability is subject over time. It was estimated by measuring the deviations of apparent consumption (production plus imports minus exports) with respect to the trend values in the 1970-1980 period, without taking account of the degree of sufficiency or insufficiency.⁵

As an indicator of the degree of stability/instability, the coefficient of variability of apparent consumption was used, expressed in terms of the standard deviation of the percentage differences

with respect to the trend.⁶ An identical procedure was followed with the variability of production, since in most countries this is the main component in consumption and shows, by comparison of coefficients, whether imports have performed the stabilizing role assigned them or not.

In order to visualize more directly the degree of instability, the coefficients were expressed in terms of probabilities (P) that the consumption or production in a given year would be less than 95% of the trend value. For operational purposes, the following categories were established:

- i) stable P < 15%
- ii) moderately unstable 15% < P < 25%
- iii) unstable 25% < P < 33%
- iv) critically unstable P > 33%

During the 1970s, that is to say, in the pre-crisis period, less than one-third of the countries attained reasonable levels of stability in basic food production (cereals, pulses and tubers), while the percentage rose to over 40% when considering the consumption of those goods

⁵Variations in stocks were not considered, since they do not appear in the sources employed for the other variables (FAO, *Production Yearbooks*). Although there are alternative sources for estimating this variable, it was decided not to use them for the sake of homogeneity and consistency. It is probable that this results in an overestimation of instability.

⁶This methodology corresponds to that suggested by Huddleston and others (1978) and Valdés (1981) (see the Methodological Appendix).

(table 2). In most cases, the consumption coefficients were lower than production coefficients. The high percentage of domestic demand that is met by imports in countries like Venezuela, Cuba, Jamaica and Panama helps to partially isolate consumption from the instability that major fluctuations in domestic production would otherwise cause. This situation contrasts with that observed during the period in question in Nicaragua and Mexico.

Table 2

**LATIN AMERICA AND THE CARIBBEAN:
LEVEL OF STABILITY IN THE
THE PRODUCTION AND
CONSUMPTION OF
BASIC FOODS,
1970-1980**

	Probability, less than 95% of the trend	
	Production	Consumption
Stable 0%-15%	Colombia	Colombia
	Nicaragua	Brazil
	Brazil	
Slightly unstable 15%-25%	Bolivia	Panama
	Suriname	Venezuela
	Mexico	Cuba
	Peru	Trinidad and Tobago
	Honduras	Honduras
		Bolivia Jamaica Peru
Unstable 25%-33%	El Salvador	Mexico
	Costa Rica	El Salvador
	Venezuela	Costa Rica
	Argentina	Haiti
	Haiti	Suriname
	Cuba	Nicaragua
	Trinidad and Tobago	
Critically unstable 33% or more	Guyana	Guyana
	Uruguay	Uruguay
	Guatemala	Argentina
	Dominican Republic	Dominican Republic
	Ecuador	Guatemala
	Paraguay	Ecuador
	Chile	Chile
	Jamaica	Paraguay
	Panama	

Source: ECLAC/FAO Joint Agriculture Division.

It is possible that the great variability observed in the production of basic crops is due to the fact that these goods are important elements in the "popular basket". The rigorous controls often imposed on their prices motivate those who produce them to change lines of activity as soon as they have more profitable alternatives. The fluctuations in wheat production in Chile, the shifts between grains and meat in Argentina and the sorghum/maize ratio in Mexico are illustrative of this type of phenomenon.

In several countries of the region, a significant portion of the supply of these products is generated by peasant agriculture, which is concentrated in non-irrigated land and is therefore exposed to rainfall variations which could very well be another source of variability. However, those countries in which peasant agriculture has the greatest weight are not necessarily those with the most acute levels of variability.⁷

In so far as instability in domestic supply can be checked by imports, a negative correlation between production and imports may be expected, as well as a relative inelasticity of the latter to price changes. The first of these phenomena was manifested clearly in only a few of the 24 countries considered in our analysis,⁸ while in 11 of them some degree of inelasticity in the demand for imports was detected.

The lack of a (negative) correlation between production and imports and the relative insensitivity of import demand to price changes seem to explain why the differences between production instability and consumption instability are not substantial.⁹

⁷In the case of Mexico, which has a high level of instability, maize is the only cereal produced basically by peasants, while wheat and rice are markedly entrepreneurial crops. See ECLAC (1982), pp. 84 and 85.

⁸In the majority of the cases, the regressions were not statistically significant, while in many of them they were positive. Similar results were obtained by Valdés (1981), p. 33.

⁹Valdés (1981, p. 37) felt that in the 1961-1976 period fluctuations in volume had a significantly greater weight than those of prices in explaining the variations in spending on imports in five of the six countries considered, namely Brazil, Chile, Colombia, Guatemala and Mexico, with Peru being the exception. Although the relative position of the countries is the same as in our study, the values for the 1961-1976 period are higher than those of 1970-1980. This difference is attributable to greater instability in the international prices in the latter of the two periods, as well as the decline in food aid.

If the countries are grouped by geographical subregion and/or by integration agreements (the Caribbean, Central America, Andean Group, Southern Cone), it can be seen that the coefficients of variability of production for the groupings are considerably lower than those for the individual member countries. This suggests that both trade and the establishment of a common purchasing policy could help to alleviate instability in the products under consideration.

3. *Autonomy*

a) *Preliminary considerations*

A distinctive feature of the insertion of Latin America and the Caribbean in world food trade is its strongly asymmetrical nature. The agricultural exports of the majority of the region's countries are dominated by a small number of traditional items for which world demand shows little dynamism, or is even declining, and which are only marginal components of the "basic baskets" of both exporter and importer countries.¹⁰ For their part, imports appear to be dominated by essential items (cereals, oilseeds, etc.) which come from an ever-smaller number of countries and firms.

The dynamics of food exports and imports show substantial changes between the two decades prior to the crisis. During the 1960s, the course of the values, volumes and prices of exports did not differ markedly from those of imports. In the 1970s, however, imports grew by 16% and exports by 9%; the volume of exports—a manifestation of the effort to win markets—grew slightly more than 1%, while that of imports rose by around 11%. This is the context in which the evolution of levels of food dependence must be examined.

The indicators of autonomy—or of its opposite, external dependence—attempt to measure the degree of external vulnerability of food systems. Frequently, these calculations must be based on the net food balance (exports minus imports) or on estimates on the weight of certain imported products (particularly cereals) in

domestic consumption. However, these types of indicators reveal only partially—and in the case of the former, very mistakenly—what is really happening as regards the external vulnerability of food systems.

If what is desired is to measure the vulnerability of the food system as a whole, it would be necessary to include the inputs and means of production necessary for both agriculture and the food industry and also, to some extent, for commercial activities.

Examination of the trend in the weight of food system imports with respect to total overseas sales shows a very heterogeneous range of situations (table 3). There are cases in which the food and agriculture sector does not absorb more than 10% to 15% of export income, but there are other countries where that coefficient has exceeded 30% for several years. The relative weight of these imports reaches its maximum point in the middle of the decade under study, probably because of the rise in international grain prices.¹¹

b) *Dependence on cereal imports*

With the exception of countries that are net exporters of wheat, the levels of dependence on cereal imports during the 1970s were quite high, since imports exceeded 10% of apparent consumption, in some cases by a considerable margin (table 4). If a level of dependence ranging between 10% and 20% of consumption is arbitrarily defined as average, around 30% of the countries fall into this category; another one-fifth exhibit a high level of dependence, with imports between 20% and 30% of consumption, and the rest (half of the cases, and especially the Caribbean nations) show a critical level of dependence.

If, moreover, we consider the trend followed by the import/consumption ratio during this period (i.e., the annual rate of growth of this quotient), it is possible to distinguish: i) a group made up of the Caribbean countries, which systematically import nearly all the cereals they consume; ii) a group formed by Chile, Peru and the Dominican Republic, with a high and growing

¹⁰Someone once said, not without some justification, that these exports merely supplied desserts for the industrialized nations.

¹¹Until the mid-1970s, six items in the areas of cereals, dairy products and oilseeds accounted for 90% of imports—a coefficient that dropped to 56% in the 1980-1982 period.

Table 3

**LATIN AMERICA: IMPORTS OF INPUTS AND MEANS OF PRODUCTION
FOR THE FOOD AND AGRICULTURE SECTOR^a**

(Percentages)

	1970	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Argentina	8.3	9.7	8.5	7.6	9.9	5.9	6.2	5.4	8.2	11.3	7.7	5.2
Brazil	17.9	18.8	18.1	25.5	19.3	16.7	12.7	17.0	19.9	16.9	11.6	10.7
Colombia	16.0	13.5	17.5	22.7	15.8	14.8	14.2	14.2	12.9	17.6	22.1	24.6
Costa Rica	22.6	22.9	22.8	31.9	33.9	21.7	18.8	19.4	19.7	22.7	17.3	16.7
Chile	17.5	40.2	30.6	32.9	24.1	22.4	16.3	22.0	17.3	20.7	24.6	16.2
Ecuador	14.9	11.2	10.7	10.0	17.3	11.6	10.6	13.0	9.6	11.2	10.3	13.5
El Salvador	28.2	17.9	19.9	24.2	28.4	17.4	16.6	18.2	18.8	20.0	31.7	28.6
Guatemala	15.9	16.0	14.7	17.5	22.4	13.2	12.0	17.5	18.2	15.7	21.6	16.4
Honduras	23.2	17.6	19.0	21.4	28.2	20.3	19.6	21.3	33.3	23.7	25.8	17.2
Mexico	23.4	21.9	31.5	42.5	44.0	25.7	25.8	23.4	20.0	23.3	20.3	10.8
Nicaragua	16.3	16.3	23.1	21.7	22.4	13.5	17.6	17.4	10.3	47.6	41.9	35.8
Peru	13.9	20.5	25.1	20.3	37.7	26.6	20.9	17.6	11.2	18.5	30.5	22.1
Venezuela	7.9	7.9	7.2	5.5	10.2	10.4	16.8	17.4	10.4	10.4	13.2	12.2
Total	14.5	16.1	16.2	18.1	19.4	15.1	14.9	16.5	15.0	16.5	15.6	12.2

Source: "Cuadernos de la CEPAL" Series, No. 11, and FAO *Foreign Trade Yearbook*.

^aIncludes imports of food, means of production for agriculture (fertilizers, agricultural machinery and pesticides) and machines for the food industry.

Table 4

**LATIN AMERICA AND THE CARIBBEAN:
LEVEL AND TREND OF THE IMPORTED SEGMENT OF CEREAL CONSUMPTION,
1970-1980**

Trend	Average level of imports			
	Low	Medium	High	Critical
Growing		Mexico Brazil Honduras	Haiti Ecuador	Dominican Republic Chile
Constant		El Salvador Colombia Guatemala	Nicaragua Bolivia	Cuba Barbados Venezuela Trinidad and Tobago Jamaica
Decreasing	Argentina	Paraguay	Panama Guyana	Costa Rica

Source: ECLAC/FAO Joint Agriculture Division.

level of dependence; iii) a small group where there is a downward trend, and iv) a large majority of the countries, where the level of dependence is in the medium range and rising.

c) *Calorie dependence*

An assessment along the same lines as the above, but referring this time to the imported

content of energy supply (imported calories over calories consumed), provides very similar results in terms of the ranking of the countries. Although the levels of dependence are lower, several countries still display a critical situation. Moreover, there are few countries (among them, two basic grain exporters) which show downward trends in this variable (table 5).

4. Sustainability

By "sustainability", we mean the food system's capacity to ensure that the above attributes and equity (to which reference will be made further on) are not achieved in the short run at the cost of depleting renewable and non-renewable natural resources to such an extent as to make the process unsustainable in the long term.

Three major types of losses may be noted by way of illustration: loss of cultivable land, loss of phytogenetic varieties, and loss of energy efficiency of the food systems.

There are no recent and/or broad-ranging estimates on the damage that the processes of erosion, salinization, laterization, and desertification in general have caused to the agricultural potential. Judging by the data from studies on countries and/or regions, however, the loss of cultivable land is very significant. According to this information, in Mexico the land affected by accelerated or absolute erosion represents 51% of the surface area; in Colombia, 31%; in Central America, nearly all the highlands; in Chile, nearly 25% (Dourojeanni, 1980). One-fifth of the territory of Latin America, inhabited by 24 million people, is estimated to be affected by the presence or the imminence of desertification (Gligo, 1981).

Even though considerable new areas of land are also being opened up to cultivation and the potential of the existing land is being substantially increased, through the introduction of irrigation and other practices, the trend suggests that the losses are higher than the gains (Gligo, 1981).

Noteworthy among the processes that have given rise to what is generally known as "genetic erosion" are those that affect grazing lands. This is particularly so in the case of grazing by sheep and goats, which have annihilated the fodder species of greatest palatability (Gligo, 1981). The penetration of the humid tropics, when carried out in the absence of genetic conservation programmes that safeguard these ecological fragile biosystems, is causing the rapid loss of whole populations of species. In the specific area of food systems, however, the trends which cause most concern are those tending towards accelerated genetic simplification, caused by the development of modern, high-yield seeds which has not been accompanied by equivalent concern for gathering and conserving the rich variety of pre-existing germoplasm (Barkin, 1983). In the case of Latin America, it has been possible to gather and maintain germoplasm reserves at a relatively acceptable level only in the cases of maize and, more recently, potatoes (Harlan, 1975).

Table 5

LATIN AMERICA AND THE CARIBBEAN: LEVEL AND TREND OF IMPORTED SEGMENT OF ENERGY SUPPLY, 1970-1980

Trend	Imported calories as a percentage of total calories consumed			
	Low	Medium	High	Critical
Growing	Mexico	Ecuador Haiti Jamaica	Dominican Republic	
Growing slightly	Colombia Brazil	Honduras	Peru Panama	Venezuela Chile Trinidad and Tobago
Constant	Guatemala		Costa Rica Bolivia	Cuba
Decreasing	Argentina Uruguay Paraguay			

Source: ECLAC/FAO Joint Agriculture Division.

Finally, there is the problem of energy subsidies posed by the fulfilment of a type of food pattern comparable to that of the United States, which is the dominant model in our region. According to estimates by Steinhart (1974), the ratio of commercial energy input per food calorie available on the consumer's table was around 9 to 1. The extension of that pattern to the whole of Latin America would have made it necessary—merely in order to meet food demand—to double the region's total consumption of crude oil (in 1980).¹² Thus, it is evident that generalizing that model is simply not viable.

5. Equity: distribution of food entitlements

The concept of equity is, by its very nature, a value concept. Although there may be broad consensus on the universality of the right to given minimum levels of nutrition, the range of the criteria on the "rules" for applying these in society is very wide. Very broadly, they range from the criterion that it is the unrestricted functioning of the market—by people exercising their purchasing power—which should determine each person's access to food, to the view that mechanisms should be established to ensure equal access (in proportion to nutritional needs, and in the light of national supplies), which in general means rationing. Although schemes approaching these two extremes have been attempted in the region, they have been tempered by policies of nutritional intervention and employment subsidies, in the first case, and by the increasing opening-up of spaces for market-influenced access and material stimuli that permit some degree of differentiation, in the second.

With the aim of defining a criterion for equity, let us assume, as a least common denominator, the consensual idea that malnutrition and/or under-consumption are clear expres-

sions of inequality in the distribution of food entitlements. The magnitude of these phenomena can thus be considered an adequate indicator of the degree of equity of the region's food systems.

In order to estimate the percentage of the population affected, a level equivalent to 1.4 times the basal metabolic rate (BMR) was used as the threshold or "malnutrition line". The BMR corresponds to the energy expenditure of a person with an empty stomach at complete rest in a temperate environment. The experts of the FAO/WHO/UNU joint consultation felt that, until more precise data were available, the above-mentioned coefficient was a useful guide for estimating the extent of malnutrition. In turn, to define under-consumption, the so-called "base norm" (BN) used previously for calculating sufficiency has been used as a threshold or "under-consumption line".

It should be borne in mind that estimating the levels of malnutrition and under-consumption on the basis of national aggregate information necessarily leads, regardless of the source used, to very gross approximations as to the dimensions of the phenomenon, even in cases where studies are available on the structure and composition of food expenditure.¹³

It should also be borne in mind that—regardless of the undeniable conceptual advances achieved between the meeting of the FAO/WHO Special Joint Expert Committee on Energy and Protein Needs, in 1971, and the FAO/WHO/UNU joint consultation held 10 years later—even the determination of the minimum nutritional requirements is subject to a number of qualifications. An inadequate intake does not necessarily lead to malnutrition, since it can be circumvented by biological adaptation or changes in behaviour (reduction in the level of activity). These are the limitations that must be incorporated into the analysis when attempting to evaluate the levels of malnutrition and under-consumption on the basis of indirect information.

¹²Even the most moderate estimates made by Pimentel and others (1973) indicate that the amount of the energy subsidy required by the United States food consumption pattern would lead, in a period of 12 years, to the total depletion of the oil reserves. Implicitly, Pimentel assumes 1 246.8 kg/inhabitant/year of crude oil equivalent in the food system of the United States around 1975. In 1980, total world oil consumption was 643 kg/inhabitant/year (United Nations, 1982).

¹³As the manifestations of malnutrition are clinical, their measurement would call for sample studies, based on specific indicators, with respect to significant deviations of anthropometric parameters that could reflect this situation.

Taking account of the criteria and exceptions mentioned, and using the methodology proposed in the Fifth World Food Survey (FAO, 1987), which allows the distribution of calorie intake to be deduced from income distribution and other complementary parameters (see the Methodological Annex), the incidence of malnutrition and under-consumption in countries for which more or less recent data are available has been estimated.

Of the ten countries considered, only four show malnutrition indexes that (above all in the case of Argentina) could be remedied in the short run with conventional measures. In the others, the relative weight of malnutrition and under-consumption borders on or exceeds 25% (in many cases by a substantial margin),¹⁴ which indicates that in order to address the food issue effectively, it would be necessary to reconsider more fully the place that it occupies in the design or basic conception of the development strategy (table 6).

The under-consumption indexes, for their part, show extremely high levels. Argentina is an exception, since it exhibits a high average level of calorie intake, but even so almost 18% of its population lies below the base norm. The weighted average indicates that around 44% of the Latin American population suffer from under-consumption: a figure that coincides with

the 1980 ECLAC estimates on the magnitude of poverty in the region.

Table 6

**LATIN AMERICA (SELECTED COUNTRIES):
ESTIMATES OF MALNUTRITION
AND UNSATISFIED DEMAND,
AROUND 1980**
(Percentages)

	Calorie intake below	
	1.4 BMR ^a	Base norm ^b
Argentina (1982)	5.6	17.9
Brazil (1984) ^c	24.2	46.0
Colombia (1982)	24.8	48.0
Chile (1982) ^c	12.5	35.2
Guatemala (1979-1981)	38.7	62.9
Honduras (1982) ^c	41.3	61.4
Mexico (1977)	25.5	43.3
Panama (1982)	13.1	48.4
Peru (1978)	40.5	61.8
Venezuela (1982)	12.7	37.5

Source: Prepared by the ECLAC/FAO Joint Agriculture Division on the basis of statistical data on income distribution from ECLAC, Income Distribution Series; for Brazil on the basis of figures supplied by República Federativa do Brasil, Programa de Ação Governamental.

^a 11.4 times Basal Metabolic Rate.

^b J.C. Feres and A. León, "Determinación de las necesidades de energía y proteínas para nueve países de América Latina", ECLAC (photocopy), Santiago, 1988.

^c Base norm estimated on the basis of the ratio between the values of the study mentioned and those calculated by Altimir (1979) for countries with similar demographic characteristics.

II

The impact of the crisis on food security

There is no empirical information that permits an evaluation of the impact of the crisis on aggregate availability and the food access conditions of the low-income population, or that makes it possible to distinguish between the effects of the crisis *per se* and the adjustment policies adopted. However, based on figures on the growth of production, the trade balance and

the prices of food, as well as an analysis of trends in employment and wages, it is possible to form a fairly clear qualitative idea of the effects of the crisis and the adjustment.

1. Effects on aggregate supply

In order to estimate what has happened as regards aggregate supply, a comparison has been made between the average rates of variation in the sufficiency, stability and autonomy of food systems in the period 1980-1985, when the

¹⁴The figure for Brazil is similar to that used by the 1987-1991 Government Action Programme (400 calories/day) to identify people with a food deficit.

effects of the crisis made themselves felt and the rates observed in each of the two previous decades.

a) *Levels of sufficiency*

In terms of per capita calorie supply, the overall rate of growth suffered a drastic drop, though this average figure concealed very dissimilar situations. While in Mexico, Central America and Cuba the growth rate was maintained or even increased, in the Southern Cone and in the Andean countries average supplies deteriorated. The fate of this latter subregion is particularly critical, since it was already affected by chronic insufficiency before the crisis (table 7).

Table 7

GROWTH RATE OF PER CAPITA
CALORIE INTAKE FOR
HUMAN CONSUMPTION,^a
1960-1985

	1960- 1970	1970- 1980	1980- 1985
Central America	0.8	0.5	0.6
Caribbean (except Cuba)	0.7	0.5	0.6
Cuba	1.5	1.0	2.1
Andean countries	0.3	0.8	-0.1
Southern Cone	0.6	-0.2	-0.4
Brazil	0.7	0.6	0.1
Mexico	0.6	1.2	0.8
Latin America and the Caribbean	0.6	0.6	0.2

Source: Prepared by the ECLAC/FAO Joint Agriculture Division on the basis of data from FAO, *Supply-Utilization Accounts*.

^a Annual rates between the three-year periods 1961-1963, 1961-1971, 1979-1981 and 1983-1985.

The modest increase—even possibly attributable to problems of basic information—in the food energy supply (FES) was the result of improvements in the calorie content of domestic production.¹⁵ This, along with the use of accumulated stocks, helped to offset the fall in imports and the increase in food exports (table 8).

¹⁵The volume of per capita production, however, underwent a slight decrease during this period.

The decline in calories of imported origin and the recourse to accumulated stocks were generalized phenomena. Moreover, domestic production contracted in the Andean countries, Central America and the Caribbean (excluding Cuba), though this was probably offset by cutbacks in food exports. On the other hand, the production and exports of Mexico, Brazil and the Southern Cone nations registered increases, which, in the case of this last group, led to a fall in per capita FES.

With regard to the destination of domestic supply, use for cattle feed rose more than use for human consumption in Mexico, the Southern Cone and Central America. In the Southern Cone, total supply expanded, but the per capita calory availability dropped, due to the much more rapid increase in production for other purposes. In the other subregions, the volume of calories used for animal feed and other purposes went down, but in the case of the Andean countries this was not enough to allow an increase in the calorie intake of the population.

The use of stocks (and, in some cases, the cutback in exports) as a means of sustaining intake levels would probably have been insufficient if not accompanied by shifts in consumption patterns towards products having a greater calorie content per expenditure unit. Thus, in the majority of the countries the consumption of calories from basic grains increased, while calories from meats and/or dairy products dropped. As a result, the average calorie content of each ton of food consumed by the Latin American population rose slightly more than 2% between 1980-1982 and 1983-1985 (table 9).

In sum, as far as sufficiency is concerned, the crisis was reflected in a reversal of the sustained trend toward a reasonable growth of aggregate supply. It is true that this supply maintained its level in some cases and even exhibited marginal increases in others; but this was achieved through the running-down of stocks, increases in the calorie content of the factors of both supply and demand, and a fall in use for cattle feed. The most critical situation affected the Andean countries, where the background of structural insufficiency was further aggravated, with a consequent increase in malnutrition and under-consumption.

Table 8

**CHANGES IN THE SOURCE AND DESTINATION OF
FOOD ENERGY SUPPLIES,^a
1980-1985**

	Source			Destination				Total
	Production	Imports	Stock variation	Exports	Food	Animal feed	Others	
Latin America and the Caribbean	135	-161	168	-47	18	-5	82	95
Mexico	143	-343	411	6	64	172	-19	217
Brazil	197	-119	50	-13	7	-140	247	115
Central America	-201	-117	124	225	85	13	-67	31
Andean countries	-240	-94	64	195	-22	-26	-27	-74
Southern Cone	581	-175	437	-667	-34	170	40	176
Caribbean (excluding Cuba)	-226	-62	64	199	24	-28	-21	-25
Total Caribbean	582	-113	-98	-261	291	-125	-56	110

Source: Prepared by the ECLAC/FAO Joint Agriculture Division, on the basis of FAO, *Supply-Utilization Accounts* for the corresponding years.

Note: The increases in stocks and exports during the base period appear with a minus sign, since they reduce domestic supply.

^aMeasured in daily per capita calories; correspond to the differences between the values registered in 1985 and those for 1980.

b) *The impact on levels of stability*

In order to evaluate the incidence of the crisis on levels of stability, a comparison was made between the coefficients of variability corresponding to the 1970-1980 series and the coefficients for the longer 1970-1987 series, on the assumption that any changes would be attributable to the incorporation of the five years of the crisis.¹⁶

In theory, food imports attenuate the effects of fluctuations in domestic production. Their generalized fall should therefore have accentuated the instability of domestic supply. However, this was observed in only 13 of the 24 countries considered (table 10).

The Andean subregion is once again a special case, since it is the only area in which the instability grew in all the member countries. Neither the use of accumulated stocks nor the decline in food exports allowed them to offset the instability caused by the fluctuations in production, coupled with the fall in the levels of sufficiency and the high indexes of malnutrition and under-consumption.

¹⁶This overlapping of the two series was carried out in order to have the degrees of freedom necessary to be able to calculate the coefficients of variability.

c) *The impact on the levels of autonomy*

For the region as a whole, the supply of imported calories dropped by slightly more than 18% between 1979-1981 and 1984-1985, so that their weight within domestic supply fell from 12% to 10%. The decrease reached as much as 20% in Mexico and 27% in Brazil (table 11). A

Table 9

**LATIN AMERICA: TREND OF AMOUNT
OF CALORIES PER TON OF
FOOD CONSUMED**

Subregions	Millions of kilocalories per metric ton	
	1980- 1982	1983- 1985
Mexico	1 960	2 007
Brazil	1 700	1 717
Central America	2 023	2 546
Andean countries	1 597	1 653
Southern Cone	1 407	1 443
Caribbean	1 823	1 843
Caribbean (excluding Cuba)	1 727	1 733
Cuba	1 983	2 027
Total	1 687	1 723

Source: FAO, *Supply-Utilization Accounts*, January 1987.

Table 10
COEFFICIENT OF VARIABILITY OF THE
CONSUMPTION OF BASIC FOODS,
1970-1980 AND 1970-1985^a

Countries	Coefficient of variability	
	1970-1980	1970-1985
Argentina	21.4	26.2
Bolivia	5.9	11.8
Brazil	1.9	3.5
Colombia	4.1	8.7
Costa Rica	10.2	9.8
Cuba	6.8	5.2
Chile	13.4	12.7
Ecuador	14.6	12.6
El Salvador	10.6	9.9
Guatemala	15.9	13.8
Guyana	24.8	23.2
Haiti	7.9	7.0
Honduras	6.3	8.8
Jamaica	5.7	7.9
Mexico	10.5	12.2
Nicaragua	8.1	11.6
Panama	7.3	6.6
Paraguay	13.3	11.1
Peru	5.7	6.4
Dominican Republic	16.1	15.4
Suriname	8.0	8.9
Trinidad and Tobago	6.5	1.5
Uruguay	19.3	16.4
Venezuela	7.0	8.2

Source: Prepared by the ECLAC/FAO Joint Agriculture Division, on the basis of FAO *Production Yearbooks*.

^aCorresponds to apparent consumption and does not include stock variations.

similar trend may be observed when examining the annual rate of variation in the physical volume of imports per capita, which rose in only three of the 22 countries for which estimates were made.

However, the decline in the imported component of food consumption cannot be considered equivalent to an improvement in the levels of autonomy, since this was largely achieved at the cost of a virtual stagnation in the levels of sufficiency and the use of stocks accumulated in previous periods. Only in a few cases did the decline in the imported component seem to be attributable to import substitution (table 12).

2. The impact on equity

The lack of information about the evolution of food consumption, income distribution and the

nutritional situation of vulnerable sectors impedes a direct evaluation of the impact of the crisis and of the adjustment policies on the conditions of access to food, and it is even more

Table 11
LATIN AMERICA AND THE CARIBBEAN:
VARIATIONS IN THE IMPORTED
COMPONENT OF CALORIE INTAKE,
1980-1985

(Percentages)

	1979-1981	1984-1985
Latin America	12.2	10.0
Mexico	15.9	12.7
Brazil	6.6	4.8
Central America	15.3	14.0
Andean countries	16.8	15.7
Southern Cone	6.1	3.0
Caribbean	30.1	29.0

Source: FAO, *Supply-Utilization Accounts*, January 1987.

Table 12
RATE OF VARIATION OF PER CAPITA
PRODUCTION, IMPORTS AND
EXPORTS OF FOODS,
1980-1985

Country	Production	Imports	Exports
Bolivia	-2.1	-4.1	-23.3
Brazil	1.0	-7.5	4.3
Colombia	-1.0	-1.0	-4.5
Costa Rica	-1.4	-8.2	-5.3
Cuba	2.5	0.8	1.1
Chile	-0.4	-17.6	8.4
Ecuador	-1.2	-3.4	-7.7
El Salvador	-1.3	-2.8	1.9
Guatemala	-0.6	-8.1	-5.8
Guyana	-4.6	-21.0	-7.8
Haiti	-0.8	-1.1	-6.7
Honduras	-4.6	-13.7	-5.5
Jamaica	1.5	0.3	2.2
Mexico	-0.6	-6.9	2.2
Nicaragua	-2.7	-10.5	-13.2
Panama	0.2	-1.6	-1.8
Paraguay	-	-6.7	17.7
Peru	1.0	-8.7	3.8
Dominican Republic	0.8	-6.4	-1.3
Trinidad and Tobago	-1.0	2.6	-7.1
Uruguay	-0.1	-8.4	2.1
Venezuela	-1.5	-4.9	3.5
Latin America	-0.02	-5.8	1.8

Source: Based on FAO data.

difficult to establish how much of the deterioration is due to the crisis and how much is due to the policies used to cope with it. Moreover, the causal relations between crisis and malnutrition—or, inversely, between growth and a high nutritional level—are neither simple nor direct,¹⁷ while furthermore there is the question of the time gap existing between the deterioration in the factors that affect the level and quality of consumption, on the one hand, and its nutritional manifestations, on the other.

a) *Deterioration of the rights of access to food*

Without prejudice to the above reservations, the generalized nature and rapidity of the deterioration in the various factors that have an impact on the rights of access to food suggest a severe intensification of under-consumption. Among these factors are the following:

i) The generalized increase in open unemployment and underemployment, which reached unprecedented levels in the 1985-1986 period in eight of the 16 countries for which official information was available. The simple average of the number of unemployed in 17 countries registered an increase of nearly 50% between 1980 and 1985. Moreover, unemployment has had a much stronger impact on lower-income families (IDB, 1987), and, within urban unemployment, the percentage of heads of household thus affected has tended to rise (PREALC, 1987b).

ii) The deterioration in real wages, which was observed in virtually all types of jobs, but was particularly severe in the activities preferentially engaged in by poor groups, such as agriculture and construction (PREALC, 1986).

iii) Inflation and the disproportionate rise in the prices of food or of the items in the "basket of the poor". When automatic or semi-automatic indexation mechanisms which were characteristics of the wage policies of several of the countries of the region were eliminated, the

¹⁷Although economic growth may be expected to lead to a decline in malnutrition, a per capita wage increase does not always mean a rise in the income of the poor; a rise in the income of the poor does not always mean greater spending on food; increased spending on food does not necessarily lead to improvements in nutrition, and advances in family nutrition do not necessarily improve the condition of the most vulnerable members of those families (Berg, 1973, p. 42).

Table 13

EVOLUTION OF PER CAPITA HEALTH EXPENDITURE BY THE CENTRAL GOVERNMENT

(1980 = 100)

	1981	1982	1983	1984	1985 ^a
Argentina	75.2	53.0	72.7	86.1	81.1
Barbados	97.3	76.4	75.2	78.7	73.3
Bolivia	54.0	22.3	31.2 ^b	45.8 ^b	
Brazil	100.8	114.4	126.8 ^b	140.6 ^b	
Costa Rica	62.0	57.5	54.2	83.5	27.7
Chile	105.2	96.0	78.0	76.2	117.4
Ecuador	126.6	115.8	94.2	103.7	60.3
El Salvador	98.4	83.8	71.5	67.6	62.5
Guatemala	69.9	81.6	39.6	41.7	35.9
Guyana	104.5	101.8	73.1	70.2	79.6
Haiti	97.0	141.1	110.4		
Honduras	98.9	101.9	103.6	84.8	124.4
Jamaica	100.7	99.2	92.1	81.5	65.0
Mexico	100.0 ^b	73.8	49.2	36.4	57.4
Nicaragua	113.6	96.0	99.9		
Panama	98.2	104.5	112.7		
Paraguay	135.7	212.4	212.6	170.3	169.4
Peru	119.3	118.5	169.5	160.4	80.3
Dominican Republic	105.7	58.5	57.1	53.5	48.2
Trinidad and Tobago	114.6	192.8	196.2	169.3	156.4
Uruguay	87.5	83.8	86.6	103.0 ^b	66.7
Venezuela	108.6 ^b	96.2	88.8	78.0	93.2

Source: P. Musgrove, "The economic crisis and its impact on health and health care in Latin America and the Caribbean", *International Journal of Health Services*, vol. 17, No. 3, 1987.

^aIDB, *Progreso Económico y Social en América Latina*, 1987, and national accounts data supplied by ECLAC.

^bIMF, *Government Finance Statistics Yearbook*.

resurgence of inflationary processes led—with few exceptions (Argentina, Brazil and Colombia)—to a slump in the real average wages of those who depend on wages and salaries. Furthermore, food prices rose more than the general index in the periods and countries where the inflation was most virulent (ECLAC, 1986).¹⁸

iv) The deterioration in the share of the poorest 40% of the population in total income,

¹⁸In the case of Chile, where since 1984 a non-governmental organization has been conducting a systematic review of the ratio between the consumer price index for the low-wage section of the community and the general consumer price index, it can be seen that the first-named index was 1% higher in 1984 and 6% higher in 1985, 1986 and 1987 (PET, 1988).

as shown by what happened in the few countries with systematic information. Even in the cases where that 40% achieved a slight improvement, the share of the poorest decile declined still further (see annex).

v) The cutback in public spending, which has an impact on food and nutrition. As part of the adjustment policies, total per capita public spending contracted in approximately 80% of the countries. Spending on health, which is among the items of expenditure most closely linked to access to food, shrank everywhere except in Brazil, Paraguay and Trinidad and Tobago, although in several countries it later showed a trend towards recovery (table 13). Moreover, the food subsidies applied by several countries, including Mexico, Brazil and Colombia, suffered drastic cuts. In contrast, per capita military expenditures were reduced in only six countries (Arms Control and Disarmament Agency, 1986).

b) *The impact on levels of consumption and nutrition*

There is no direct information on the evolution of the consumption of the poor. However, the stagnation in average intake and the shifts in consumption patterns towards foods with a greater calorie content per unit of weight and cost are powerful indexes of a deterioration in the consumption levels of the poorest strata. Obviously, it is their situation which has largely determined the changes observed in the average values.¹⁹

The data on the impact on nutrition are not only scant, but also in many cases ambiguous, to

the point that several works aimed specifically at evaluating them have had to put more emphasis on the factors than the results. Among the few cases where information is available, the following are worthy of special note: the doubling of severe malnutrition in Costa Rica between 1981 and 1982; the increase from 34% to 63% in infant mortality attributable to nutritional factors in Bolivia (Musgrove, 1987); the rise from 5% to 5.5% in the rate of infant mortality and in the number of infant deaths due to malnutrition in Mexico between 1981 and 1983; the rise from 66 to 74 per thousand in infant mortality in Brazil between 1962 and 1984, with significantly greater increases in the already high rates prevailing in the regions of the Northeast (from 93 to 116 per thousand live births) and North (from 81 to nearly 99) (World Bank, 1986, p. 21); the rise from 28.6 to 31.8 per thousand in the rate of infant mortality in Uruguay among children born during the three-year period 1983-1985; the aggravation from 38.3% to 40.8% between 1978 and 1985 of the incidence of malnutrition among children from 0 to 4 years of age in Jamaica (Cornia and others, 1987, p. 29); and the increases in the size of the indigent population from 12% in 1979 to 23% in 1984 in Chile and from 2.5% in 1978 to 7.1% in 1982 in Venezuela.

¹⁹This is revealed, for example, by the decline in consumption of protein sources in contrast with the constant level of consumption of carbohydrates observed in Costa Rica (CMA, 1987), and the severe decreases in the consumption of meat, milk and fish in the poorest strata of Mexico City in 1983 (World Bank, 1986).

Methodological Annex

A. Calculations of the coefficients of variation (Stability)

The method used was taken from Huddleston (1978) and Valdés (1981).

The coefficient of variation (c.v.) was defined as the standard deviation of the percentage fluctuations with respect to the trends, that is:

$$\text{STD} \left(\frac{Y_t - \hat{Y}_t}{\hat{Y}_t} \times 100 \right)$$

where Y_t corresponds to the observed values of the four variables considered: production and apparent consumption of cereals and basics.

Apparent consumption was defined as production + imports - exports.

In order to calculate the trend, a semilogarithmic time-regression function of the following type was adjusted:

$$\begin{aligned} \text{LN}(Y_t) &= a_0 + a_1 * t \\ t &= 1970 \dots 1980 \\ t &= 1970 \dots 1985 \end{aligned}$$

The production and consumption of cereals were expressed in physical units, while production and consumption of staples (cereals + tubers + pulses) were expressed in values, using the implicit prices of the corresponding country's imports for 1980 (value of imports/volume of imports in 1980), taken from the FAO *Production Yearbooks*.

The rate of variation corresponds to the coefficient (b_1) of the following regression equation

$$\text{LN}(Z) = b_0 + b_1 \times t$$

where Z is equal to the absolute values of $Y_t - \hat{Y}_t$.

B. Estimation of the incidence of values and prices on the variation of spending on imports (based on Valdés, 1981)

In order to estimate the relative influence of the fluctuations in prices or volumes on the variability of the spending on imports, the equation Spending (S) = Quantity (Q) × Price (P) was expanded as a first-order Taylor series in which the variability of spending (V) would be:

$$V(G) = P^2 \times V(Q) + Q^2 \times V(P) + 2P \times M \times \text{Cov}(P,M)$$

and the incidence of the variation on the quantities imported would correspond to:

$$P^2 \times V(Q) / P^2 \times V(Q) + Q^2 \times V(P)$$

C. Estimation of malnutrition and under-consumption (corrected sufficiency and equity)

The basis of the model adopted and the source of the data used to define the intervening functions are described in detail in the FAO Fifth World Food Survey. Here, only the equations used to arrive at the estimates presented are reproduced.

The FAO methodology was applied in order to deduce the distribution of calorie intake from the income or expenditure distributions and, on this basis, to calculate the percentage of the population that falls below a certain level $Z = 1.4$ BMR or a BN, both for malnutrition and for under-consumption. For the first of these, a figure of 1.4 times the BMR was used as the break point; for the second, provisional estimates made by ECLAC were used (see section E of this annex).

Using a log-normal as a theoretical model of adjustment to the calorie intake, we have the following:

$$1) U = P(X < Z) = 1 - f \left[\frac{\text{LN}(Z) - \mu}{\sigma} \right] \quad [8]^a$$

and

$$2) SC = P(X < NB) = 1 - f \left[\frac{\text{LN}(NB) - \mu}{\sigma} \right]$$

^aThe numbers in square brackets correspond to the equations of the methodological appendix of the *Fifth World Food Survey*.

where

U = proportion of population under break point Z.

\overline{SC} = proportion of population under break point \overline{BN} , both expressed in kcal/person/day.

The values of Z are those calculated by FAO (see table).

The values of BN are those calculated by ECLAC (see text).

$$3) \mu = 2\text{LN}(X) - 0.5\text{LN}(\sigma_x + \bar{x}^2) \quad x = \text{average calories of the HBA}$$

$$4) \sigma = \text{LN}(\sigma x^2 + \bar{X}^2) - 2\text{LN}(\bar{X})$$

$$5) \sigma x = \frac{1}{r} (\bar{X} \times E_x \times \sigma \text{LN}(V)) \quad [14] \text{LN}(V) = \text{standard deviation of the log-base of income.}$$

$$6) r = \sqrt{0.04 + 1.09 \cdot E_x} \quad [16]$$

Corresponds to the estimate of the coefficient of determination of regression between calorie intake and income, when data linking intake to income are not available.

$$7) E_x = K \times E_f \quad [20]$$

$$8) K = 8.4 - 43.98F + 76.98F^2 - 42.17F^3 \quad [19]$$

$$9) F = \text{Food expenditure/total expenditure}$$

$$10)a E_F = 0.2339 + 0.0033P + 0.5054 \cdot F^b \quad [21] \text{for Argentina, Brazil, Chile, Colombia, Panama and Venezuela}$$

$$10)b E_F = a_1 \text{ in } \text{LN}(G_i) = a_0 + a_1(Y_i)^c \quad \text{for Guatemala, Honduras, Mexico and Peru.}$$

where G_i = spending on food of strata i

Y_i = average income of strata i

D. *Calories needed to reach the level of 1.4 times the basal metabolic rate*

Countries	Per capita calories/day
Argentina	1783
Brazil	1683
Chile	1720
Colombia	1586
Guatemala	1576
Honduras	1573
Mexico	1663
Panama	1608
Peru	1577
Venezuela	1635

^bFor countries in respect of which only income distribution was available.

^cFor countries in respect of which both income distribution and the corresponding food expenditure were available.

Sufficiency corrected by income distribution

The type of function used to deduce the calorie intake from the income distribution (log-normal), has the disadvantage that it does not establish the upper and lower limits on intake levels, overestimating the magnitude of the deficit of the very low income sectors and overestimating the surplus of the very high income sectors. In order to reduce the effect of this characteristic on the estimates of overconsumption and under-consumption, the lowest daily limit was set at 1 300 calories and the highest at 4 300 calories per person.

With the values of X , σ and μ obtained from equations 1 to 10, the calorie deficits and surpluses of the population were estimated on the basis of the adjusted log-normal as follows:

- 1) $\log(D_1) = \sigma \times P(X < 1.4 \text{ BMR}) + \mu$
- 2) $\log(D_2) = \sigma \times P(X < \text{BN}) + \mu$
- 3) $\log(S) = \sigma \times P(X > 1.1 \text{ BN}) + \mu$

where D_1 = deficit for $Z = 1.4 \text{ BMR}$

D_2 = deficit for base norm = 1

S = surplus for 1.1 (BN)

$P(x)$ = values of the normal table associated with differing probabilities.

E. Estimates of the base norm

The per capita daily calorie intake used as a base norm in the estimates of under-consumption and in the definition of the goals for the year 2000 corresponds to that of the ECLAC/UNDP project on the dimension and characteristics of poverty in Latin America around 1985.

These are a series of new estimates compared with that employed by Altimir (1979), based on the recommendations of the Joint FAO/WHO/UNU Expert Consultation held in 1981.

The latest population censuses were used for the estimates, taking the urban and rural socio-demographic structures separately. For estimating energy and protein requirements, an average height specific to each of the countries was assumed, using body weight averages for both sexes in accordance with the procedures indicated in the FAO/WHO/UNU Report.

The authors went on to make a series of simulation exercises, subsequently adopting the one that came closest to the available indirect complementary information.

F. Indexes of linkage

The method adopted was that proposed by the Department of Planning and the Budget of Mexico in *Bases informáticas para la utilización del modelo de insumo-producto*, volume III, pp. 35-48 and 81-118.

The input-product matrixes available were reduced to five sectors: agriculture, food industry (ISIC 310 and 311), commerce, fuels and lubricants, and others.

For estimating the "linkages", the inverse matrix of the open static input-product model was calculated for the five activities, using the elements of the inverse matrix:

S_{ij} ($i, j = 1...5$), defined as

$$S_j = \sum_{i=1}^5 S_{ij} \quad (j = 1...5)$$

where S_j is the sum of the elements of column j , whose elements measure the direct and indirect impact on the corresponding branch in terms of gross production, of an increase of one unit of final demand. S_j would correspond to the gross production of the entire economy generated by an increase

of one unit in the final demand of branch j .

The estimated values correspond to the expression

$$E_j = \frac{1}{n} S_j / \frac{1}{n^2} \sum S_{ij}$$

The denominator would correspond to the average of all the elements of the inverse matrix, so that a value of $E_j > 1$ indicates backward effects greater than the average of the other branches.

G. Estimates of the relation between composition of consumption and per capita income

The information corresponds to a 1980 cross-section of per capita income in dollars for 15 countries of the region, with Haiti and Uruguay representing the extremes. The data come from the ECLAC, *Statistical Yearbook*, while the data on intake composition (in calories per capita per day) were taken from the *Food Balance Sheets* for 1979-1981. Separate regressions were made for each group (oils, sugar, stables and meat products), using the following type of equation:

$$\text{LN}(C_i) = a + b \text{LN}(Y_j)$$

where i corresponds to calories from the groups of products and j to the countries.

The sum total of calories for each of the countries was made equal to 100, proportionally dividing the share of the different items.

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Economies of difficult viability: an option to be examined

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Analyses of the regional economy are highly influenced by what happens in the large- and medium-sized countries of Latin America. However, there is a category of countries whose particular features have not received due attention nor interpretation.

It is essential to study and interpret such features, because in terms of their structures of production, distribution and accumulation, and also in their forms of overall economic management, these countries display special characteristics that justify equally special approaches. The classic indicators of economic performance cannot adequately reflect the realities of these countries. When a substantial part of their population depends on informal (and even illegal) activities, customary measurement criteria produce an appreciable degree of distortion. In several of these economies, the indigenous population represents a substantial proportion of the whole, and their forms of behaviour — particularly as regards consumption and production, education and health— fall within particular cultural patterns. Far-reaching adaptation of the general concepts on the quality of life are called for when dealing with these societies.

In the case of quite a few of these countries, their economic viability will be jeopardized if pre-crisis modes of development are insisted upon. This article suggests that the production of goods and services designed to meet basic needs and absorb labour is the central, dynamic core of the expansion process.

These thoughts and proposals refer principally to Bolivia, but it is understood that this country can be considered as a prototype from the point of view of the difficulties that need to be surmounted in order to guarantee the viability of development.

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The author wishes to note that he discussed several of the matters covered in this work with Ivan Finot and enjoyed the benefit of his analysis and comments.

I

Diversity and sub-periphery

Any effort to look into the future events that are likely to have an impact on the economies of the region provides a picture that is, to say the least, disturbing. Even if the most optimistic hypotheses about the trends of the central economies are selected, the beneficial effects of such trends do little to mitigate the problems faced by the region. It should be remembered that during these years of crisis problems have accumulated which have not been tackled, and they have resulted in very severe production and employment deficits, to say nothing of other high social costs which have had to be borne by a significant part of the region's population. Therefore, it is not just a question of recovering traditional growth rates, but also of facing up to a greater challenge: that of confronting the ever-increasing accumulated deficits and guaranteeing dynamic socio-economic performance in the future.

If a difficult future is augured for the region as a whole, particularly as regards exports and external financing, the future of the smaller and less developed economies seems even bleaker, and in some cases there are even doubts as to their economic viability if they continue to pursue conventional modes of growth and development styles that simply follow in the footsteps of the past. If, furthermore, one of the objectives is to bolster their democratic régimes were posed as an objective, this raises evident contradictions that put in doubt both their economic and their political viability. In reality, it must be remembered that in the early stages of democracy, the enjoyment of freedoms and rights allows the temporary postponement of economic demands that are more than justified. For a time, the hitherto neglected and repressed groups put up with the shortages in a weakened productive structure, concentrating instead on their enjoyment of the rights attained. After a time, however, such freedoms and rights become a normal part of the daily life and pressing demands for improved economic conditions come to the surface. The demands are incompatible with the resources available for meeting them in the

short run, and this gives rise to serious stresses in the political process. Such maladjustments weaken the capacity for political management still further, encumber government administration and hinder vital consensus.

Thus, the gaps between the most advanced countries of the region and nations of lesser relative development tend to grow. There is a risk that a sub-periphery will be formed within the periphery and that the scanty surpluses of the nations affected will tend to be transferred not only to the industrialized centres but also to the economies with the greatest weight within the region. It is worth remarking that quantitative extrapolations indicate that the trends observed today could solidify into imbalances

that can only aggravate the heterogeneity of the region.¹

It should be noted that the neoliberal currents observable in these economies, and especially the idea that maximum opening-up of the economy should be pursued at all costs, are a totally unnecessary condition which is more than enough to lead to a sort of segregation of the weaker economies.

If the aim is to modify these trends and instead follow a road in which economic viability and the consolidation of democracy are more than mere utopias, it will be necessary to consider new modes of growth and different development styles, at least for the economies whose economic performance seems to be stifled.

II

Economies of difficult viability

The category covers economies that, besides being smaller in terms of population and market, experience serious problems in the functioning of their socio-economic systems. Naturally, they have extremely low indexes of productivity, and this causes per capita income levels also to be very depressed. They suffer from very acute problems of structural heterogeneity, not only as regards their economic branches or activities but also in their spacial distribution and the composition of their populations. They also suffer from deficient economic linkages and very limited physical infrastructure. Their economic performance is generally explained by the behaviour of their external sector: they are basic goods exporters highly dependent on imports and, therefore, extremely vulnerable and decisively subject to the vagaries of external financing. Their social indicators reflect serious deficiencies in such areas as nutrition, education, health, social security, housing and employment, which lead to high indexes of infant mortality, while life expectancies are much shorter than those prevailing in the more advanced countries of the region. The fact that small privileged groups exist side by side with neglected majorities, with the needs of the former being sumptuously

catered for while the latter suffer the gravest shortcomings, gives rise to highly unequal societies.

It should be noted that these characteristics are not only valid for given countries; there are also spaces or regions, even within the largest and most advanced nations of the region, whose synergy is similar to that of economies of difficult viability. Although they naturally do not correspond exactly to the form of functioning of a complete economy or nation, they do reproduce comparable problems and obstacles and their future options may not be very different.

In general, the economies mainly dealt with in this article have attained a certain degree of economic expansion thanks to injections of finance from abroad or favourable conditions as regards the prices of their exports. As already noted, it is very unlikely that international capital will be attracted in the near future, whether in the form of direct investment or loans. It seems

¹ECLAC, *Restrictions on sustained development in Latin America and the Caribbean and requisites for overcoming them* (LC/G.1488/Rev.1), document presented at the twenty-second session of the Commission, Rio de Janeiro, 20-27 April 1988. See in particular the tables of projections by groups of countries in Part II of the document.

more realistic to assume that these countries will receive only meagre amounts of external financing quotas and will have only limited export capacity, in view of their generally low level of international competitiveness. Should this be the case, their future development in conventional terms is far from being a certainty. They face an extremely difficult dilemma, with serious obstacles to growth on the one hand and urgent needs as regards employment and the production of basic goods on the other.

To make matters worse, their consumers—and not only the wealthiest of them—show a very marked preference for the imported goods which are not precisely vital, or for domestically produced goods and services which, according to market studies, would normally be purchased by the higher-income groups. The demonstration effect and the natural tendency to assimilate consumer patterns that imply greater “well-being”, lead to a level and structure of demand that do not match the productive supply nor the import potential, nor, least of all, the wage level of substantial segments of the population.

In these economies, in general, the import substitution process is in its early stages and their degree of industrialization is more or less incipient. The trends towards the opening-up of trade limit even more their prospects for attaining greater and better articulation of their economies.

On the other hand, the need for a better insertion in the international economy, which is advocated and promoted as a key goal of a new economic approach, runs into obstacles that are very hard to overcome in the time spans

demanded by the consolidation of democracies. In fact, the struggle for external markets has become much more hostile, and in order to compete it is necessary to meet demanding price and quality requirements which economies of low productivity can only comply with after a long period of persistent effort. Such efforts must be made not only in order to sell goods and services on external markets, but also to confront the acute functional problems of that type of economy. In a context of justifiable demands by vast social sectors, it is very difficult for an export strategy—no matter how aggressive it may be—to become a dynamizing nucleus that promotes productivity while at the same time satisfying the urgent demands of the community.

The scarcity factor—especially as regards resources for investment—is a limitation that is difficult to overcome. One of the factors in the growth of these economies in the past has been their investment ratios equivalent to 15% or 20% of the product, mainly financed with external capital inflows or external indebtedness. In the foreseeable future, however, the likelihood of inflows of external savings is rather remote and, in any event, such flows will be much smaller than in the past. The need for economic expansion and the feasibility of achieving it certainly do not go hand-in-hand in the traditional form of functioning of that kind of economy. Consequently, they would appear to be confronting a difficult choice, with very limited leeway on the external front, an accumulation of deficits in food, housing and education, and masses of unemployed and underemployed whose needs cannot be put off any longer.

III

The problems of the conventional style of growth

The limited purchasing power of the domestic markets of these economies, which is chiefly explained by their low levels of income and sometimes their smaller populations, has hampered their industrialization processes. The scales of production compatible with the size of their markets are not in keeping with the absorption of modern technologies. It is very

common to find low-productivity industries using archaic technologies, and in those cases where there is an evident effort to modernize, the effective use of the installed capacity is very far from what could be considered a reasonable level of use of a scarce resource. There are few industrial activities that work more than one shift a day, and few indeed those that exceed two

shifts. It may be added that these activities generally depend on imported supplies for both equipment maintenance and the inputs of their productive processes. The industrial linkages are thus extremely weak and the spread of the technological process is limited to a few small nuclei.

Analyses show that the quality of these countries' products and particularly the useful life of industrial goods in general are not very satisfactory: thanks to excessive protectionist policies, high prices are charged for products whose quality does not reach international standards.

The deficient physical infrastructure, particularly as regards means of communication, leads to high transport costs which boost the consumer price of the goods produced beyond reasonable levels. A factor behind these high prices which has not been examined very much is that of the losses and waste observed in the distribution of products, especially perishable goods. Case studies show alarming discrepancies between the volume produced and the volume that arrives at supply centres. The amounts involved leave no doubt as to the importance of this factor, which is certainly something that cannot be tackled merely by better business management.

The policies of excessive and prolonged protectionism, whose purpose was to defend infant industrial activity against external competition, have succeeded in perpetuating a level of productivity that punishes domestic consumers through high prices and quality levels that sometimes leave much to be desired, while at the same time fostering illegal imports which aggravate still further the precarious situation of industry. In view of this, business initiatives have been directed mainly at producing goods for high-income groups which are capable of absorbing high prices, thus generating diversity in the industrial profile that results in small scales of production with their well-known effect on levels of productivity.

The consumers of these countries have developed patterns of conformity and low quality-consciousness that consolidate forms of industrial behaviour incompatible with the need to boost productivity. In fact, in these economies there is no competition to win markets: monopoly and oligopoly are the dominant forms of industrial activity. The consumer can hardly

exercise any influence through his preferences, since there is a lack of alternative choices and is consequently characterized by a sort of apathy as the final recipient of business inefficiency. It may be said that whole societies have become accustomed to putting up, through their sacrifices, with a system marked by economic improductivity and social injustice. The profit margins and wage levels are generally eloquent indicators of the violent contradictions inherent in economies of difficult viability.

The economic structure that has taken shape reflects that system and reproduces a spasmodic pattern of growth, stagnation and depression which is income-concentrating, vulnerable and unable to sustain its own development. Although the underdevelopment of the region as a whole displays the characteristics mentioned, it should be noted that in the economies dealt with in this paper these traits are much more pronounced and even dramatic, to such an extent that they cry out for another form of development which, by taking a different path, will overcome the vices of conventional development.

It should be noted that the economic agents, whether public or private, do not escape from this general problem of inefficiency, although of course there are some exceptions. Several of the countries in question are in the process of consolidating their nation-States: a process which has itself been retarded by the type of growth, mainly on account of its exclusive and non-participatory nature. Public enterprises and the administrative apparatus generally have been the victims of corporatist forms of conduct and political "clientage" which have hurt productivity and the capacity to generate surpluses. Tariff policy has lessened the profitability of businesses and has turned them in general into very weak entities with substantial financial deficits, always pressing for fiscal credit. In most cases, public management amounts to nothing more than juggling with constant postponements and seeking partial, short-lived solutions to problems.

Private enterprise is generally not exempt from similar assessments of its level of efficiency and fits in with the general pattern of underdevelopment. Business planning has an uncertain and normally short-term horizon, which favours trade and financial intermediation to the

detriment of productive activities. As the risks involved in the production of goods and services in the primary and secondary sectors increase tertiary activities expand beyond what is desirable and what the basic production would justify. It has been observed that in certain cases products go through five or six hands before reaching the final consumer, consequently to his and, of course, the producer's disadvantage.

The difficulties encountered by these economies in sustaining more solid growth favour the excessive growth of intermediaries, which acts as a safety valve for unemployment. The labour force grows more rapidly in these economies, not only due to population increase, but also because the low level of family income forces young people to seek jobs at an early age. The rapid expansion of these activities shapes a scenario in which speculation is rife, beyond the ambit of tax, social security, and even sanitary controls. In this way, an extremely weak economic structure and a highly distorted form of functioning of the socio-economic system grow up.

The small size of these countries' markets is not sufficiently attractive for transnational capital, and it is very rare to find foreign direct investment in activities that are not enclaves of natural resource exploitation or financial institutions and marketing agencies. As is well known, the activities of these economic units do not promote technical progress nor increased productivity in the rest of the economy. Although some may favour the collection of foreign exchange, others tend to promote the flight of scarce capital through over- and underinvoicing of imports and exports or outright transfers of revenue abroad. The net worth of the businesses of local residents, although the latter are often favoured by development loans, is not always in keeping with their overseas deposits or their personal wealth. Capital flight has become a major problem for these economies. It must be recognized that these forms of conduct become even more marked when the air of uncertainty and the absence of viable strategies preoccupy the minds of businessmen. According to the logic of private enterprises, businessmen cannot be expected to take excessive risks when the economy is following a path whose final result is unclear.

The ongoing shortages affecting these societies, the enormous magnitude of extreme poverty and the inability to absorb productive labour lead to forms of social behaviour that do not always foster solidarity. The struggle for survival becomes more intense and the contradictions and inconsistencies damage social cohesion and stand in the way of achieving consensus on general political projects.

It is not strange that these countries should swing back and forth between different strategy options without success. Most of these options merely favour political differences and do not always represent in-depth proposals for transformations in the economic structure to make it the basis for more equitable societies. The political proposals are of a rather superficial nature and are made in a voluntaristic and eminently declaratory way, while their abandonment naturally leads to a sense of frustration.

It is not difficult to imagine how much worse the situation of these economies is and how much more uncertain is their economic future, now that the crisis has hit the region. This phenomenon has exploded on these economies not only with great violence, but has also affected nearly all spheres of production distribution and accumulation. Extreme poverty extends over a large percentage of their populations. The satisfaction of vital needs is in greater peril than ever before, open and concealed unemployment has expanded, in some cases to an alarming extent, wage levels have suffered downturns that are difficult to bear, and the imbalances between the deprived majorities and the privileged minorities sharpen.

The economic growth of these economies has been very expensive in terms of investment, even in periods of relative normality. Just think how much more expensive it must be, however, in times of crisis, shortages of external financing, deterioration in the terms of trade and great uncertainty for productive activities. Although the magnitude of their foreign debt is not so great that their default would affect the international financial system, the servicing of this debt absorbs a high percentage of their exports. Indeed, several of these economies have ceased to comply with that commitment but their creditors have not inflicted any reprisals on them,

beyond limiting their exposure in such countries. Nevertheless the debt problem in these countries does not have the same connotations as in the large and medium-sized countries of the region. The problems affecting the economies of difficult viability are more in the sphere of their productive systems and their overseas trade.

Insisting on the forms of growth of the past would mean opting for a dead-end street. As already noted, it cannot be expected that external financing will become available in the necessary amounts to revitalize economic activity and cover the deficiencies of the productive apparatus once again. Nor does it seem reasonable to

expect that the prices of their exports will undergo spectacular rises and generate the surpluses that these economies need. It would seem more realistic to admit that the external outlook will be extremely unpromising and, on that assumption, to look for new kinds of economic expansion. It will also be necessary to admit that the most pressing deficits in these economies concern the production of vital goods and services that at present reach only a minor fraction of their populations and the need to provide productive employment for the labour force, which is suffering from alarming levels of unemployment.

IV

Principles of a different type of development

Once the special features and principal restrictions of these economies have been identified and their main problems placed in order of priority, among which unemployment and the failure to meet basic needs must occupy leading positions, it is possible to sketch out the main lines of a new type of development. Thus, the principles that serve as a foundation for this proposal would be the following:

a) *Selectivity*. A very rigorous selection of the activities meriting support from government policies is absolutely imperative. It is clear that there can be no question of repeating the attempts to expand global heterogeneous production, including activities that generate luxury goods and services, those which, while not forming part of conspicuous consumption, are certainly dispensable, and those which though necessary, cannot be described as indispensable in the current critical circumstances. In fact, when a rigorous selection is proposed, this is because the existing restrictions allow of no size variables: there must be total respect for the concept of scarce financing and foreign exchange availability. These limitations make it necessary to discriminate between what is necessary and what is absolutely indispensable, and there will be no other recourse than to shelve anything which, while essential in many respects, is not

absolutely indispensable for sheer survival. Selection guidelines must go to this extreme if absolutely vital products and services are to reach the population as a whole within deadlines that cannot be extended.

b) *Austerity*. Directly related with the foregoing principle is the need to bring down production costs in areas where these are excessively high. The dimension of the plant used, the appropriateness of the technology, intensive use of capital, and the maintenance and prolongation of the useful life of installations are among the requirements that must be fulfilled in the productive process and investment of the surplus. Superfluity is not limited only to the sphere of consumption, but also exists in production and accumulation.

c) *Efficiency*. The need to boost productivity calls for the greatest responsibility, above all from the human resources. Although there are serious problems of education and labour qualifications that demand long-term efforts, there is room for a considerable leap forward to be made through the use of suitable personnel administration and management policies, sounder business planning, better co-ordination mechanisms, information systems that give timely details of the main intentions and measures in matters of national, sectoral and

regional interest, etc. The defaults, delays, rectifications, constant comings and goings, and even errors of management in both the public and private sectors are problems so often repeated that any attempt to improve productivity must tackle them firmly from the start. Furthermore, in this sphere social censure is usually inoperative, either because of lack of information or frustration and apathy in the face of the constant recurrence of these vices.

d) *Equity*. Just as sacrifices must be shared in direct relation to income levels, increases in the product must be distributed following an inverse relationship. The massive scale of extreme poverty immediately provides a set of priorities in line with the principle of selectivity and clearly indicates who the principal beneficiaries of the fruits of progress must be. A more equitable society in these countries can hardly be the result of aid policies or so-called emergency funds, which only attenuate for a short time and on a very limited scale the excessive sacrifices of the poor. An in-depth solution must necessarily lie in the productive sphere. It will depend on what is produced, how it is produced and for whom it is produced, just as the basic texts on economy say.

e) *Consensus*. A meaningful change in the type of growth requires a broad consensus in the

community on the need to alter courses, followed by a generalized agreement on the direction of the change, in which the production of goods and services to meet basic needs and absorb the labour force is recognized as the key goal of the development policy. The bitter "distributive struggle" in these societies must give way to solidary consensus on an equitable distribution of benefits and sacrifices. The mixed nature of these economies calls for public and private initiatives: consensual actions where discussion and negotiation among social and political groups, as well as economic agents, is the mechanism for assigning responsibilities in the formation and distribution of the surplus. As will be seen further on, a new concept of planning can provide the technical foundation necessary for consensus and become the point of convergence of the actions of the different agents. In these countries, there is an increasing awareness of the need for political agreement among the social actors in pursuit of a viable solution that guarantees the strengthening of democracy. It has become clear that intransigent stands have no future and jeopardize the political achievements that are in the process of consolidation. Despite the misfortunes that it occasions, the crisis does promote maturity and broadens the field for the convergence of interests.

V

A new type of growth

The chief feature of the new type of growth is the priority given to the production of a very limited number of goods and services for meeting the main basic needs. The evaluations of economic viability, particularly with regard to the availability of resources for investment and imports, mean that only a very limited variety of products and services can be included in this nucleus of the economy, which we will call the "essential area". In other words, the essential area will be made up of a very rigorous selection of items to meet vital needs in food and clothing, education, health and housing. The principles of selectivity and austerity demand the establish-

ment of rigorous priorities regarding what is truly indispensable.

When defining this "basic basket", which is the final exponent of the essential area, the natural tendency is to make it up of a variety of goods and services which always turns out to be over-ambitious.² The first calculations on the necessary resources for investment and imports force cuts that at the start are frustrating. Quite apart from these constraints, an estimate of the time

²Office of the President of the Republic, Bolivia, *Plan Nacional de Rehabilitación y Desarrollo 1984-1988*, La Paz, 1984. See especially the treatment of the essential area.

spans within which the production of this basket could reach a level sufficient to meet the needs of the entire population also rapidly counsels a stricter selection. Thus, by a process of elimination, a food basket will be defined which, at the beginning, will contain no more than 15 to 20 items, so that adequate expansion of their production is feasible within a relatively short time. Of course, this selection must be compatible with the minimum vitamin, calorie, protein and fibre requirements laid down by food and nutrition standards, as well as with the idiosyncracies and cultures of the respective communities. In most of the economies of difficult viability, the bulk of the activity in this area will be related to agricultural and agroindustrial production, which meets basic needs, absorbs labour and, moreover, keeps peasant populations in rural areas.

Using similar procedures, definitions will be made for the clothing, education, health and housing areas. In the services sectors, of course, other complications arise that are easier to anticipate, and a less quantitative discussion is needed. At all events, definitions are also made through a series of eliminations for basic education, indispensable health services and minimum housing requirements. The consideration of how much accumulation is needed and when it should be effected also moderates natural concerns and means that there is no place for demagogic stands.

The set of activities that are not identified as being in the essential area, but which are indispensable for its growth, will make up the complementary area of the economy. The production and importation of capital goods and inputs necessary for implementing essential production, together with export, transport and basic infrastructure activities, will be the components of this second area of the economy. Naturally, the precise definition of these items is more difficult, above all when identifying the use to be made of a given good or service. The energy to make bread cannot be given the same treatment as that used to warm a swimming pool. Tax and tariff policies must play a decisive role in assessing the value to be given to these types of goods and services, seeking to favour essential production and its linkages and raise the cost of their use for luxury and non-essential ends.

The rest of the activities will comprise the subsidiary area of the economy, which will be left to its own efforts and resources. It will undoubtedly include the production and importation of non-essential and even non-necessary goods, but only through the use of resources generated in this area.

In the final analysis, the idea is that the motor of socio-economic activity should be the accelerated expansion of the essential area and of the activities needed for such expansion. The heart of this development policy, as already noted, is the satisfaction of basic needs and the productive absorption of the labour force. That is the objective to which all decisions on production, export, distribution, investment and the selection of technology must be subordinated. Contrary to other current proposals, in which top priority is given to the export effort, or a combination of priorities is assigned to this objective and to the need to modernize the domestic productive structure, the proposal made here puts emphasis on essential production and on the absorption of labour as fundamental goals on which all the other sequences and linkages are based. Thus, for example, the achievement of those fundamental objectives will determine what imports are needed, and this will in turn determine the necessary exports. The allocation of resources for domestic production and for increasing the export base will depend on the fulfilment of the fundamental goals.

The accelerated expansion of the essential area, although implying the generation of revenue and increased demand, does not exempt economic policy from the need to make income redistributions that complement those inherent in this type of growth.

All support from official policy must be channelled towards the essential and complementary areas. The participation of private capital is paramount, particularly in the production of goods, and it must be recognized that its performance will be determined, as is obvious, by the possibility of making profits. The amount of such profits may be the subject of discussion, consensus and compatibilization with wage and reinvestment policies; excesses may be avoided, but the fact that capital is motivated on the basis of profits must be recognized by the price and tax

policy. There is no other way to arouse investors' interest and boost the productivity of investments. Moreover, the fact that profits are obtained by producing essential goods and services and absorbing labour will be much more pleasing to the community than profits made by manufacturing luxury items and resort to capital flight. The legitimacy of the participation of private enterprise means that this proposal carries with it the basic idea of consensus, unlike others in which such participation is ruled out in certain priority areas.

As the goals of putting the "essential basket" within the reach of the masses are gradually being achieved, the scope of the project and even the volume of each good or service should be expanded. In other words, the idea is not to establish a "basket" that is rigid and invariable through time; on the contrary, in view of the strictness of the initial selection, and in the light of the results being obtained, it is only natural that the basket should be given greater coverage as regards the number of goods and services it contains, the respective quantities, and the levels of quality.

Once the initial "essential basket" has been set up, the first step is to determine the existing deficits in each of the goods and services that it contains, as the difference between the volume produced or imported and the population's real needs. The ideal situation would be to determine these deficits according to income categories, since, on the one hand, the groups with the highest incomes will undoubtedly show a surplus, while on the other, the scarcities will affect more than half of the population. The surpluses are explained not only by higher consumption, but also by high levels of waste.

The historical rates of increase of the production of these essential goods and services, population growth, and income distribution trends will permit the projection of potential deficits, the size of which, in turn, will demand an unavoidable change in the type of growth of the economy.

The next step will be to identify and quantify the production functions of each essential good and service. By establishing the inputs and capital goods needed, whether national or imported, it will be seen that only a minor part of economic activity is linked to that type of production, while

it absorbs an appreciable portion of the labour force, generally at very low levels of productivity. The production functions can naturally be simulated on the basis of the use of alternative technologies; their evaluation in terms of costs and results will facilitate the modernization of the productive apparatus and help boost productivity. Thus, the definition of the essential area also allows the selection of technologies, while determining the right direction of changes in the productive structure.

As is obvious, the production functions for essential goods and services, as well as their quantitative goals over time, will determine the investment projects that must be designed and evaluated in the light of the use of alternative technologies. It should be noted that the right instruments for obtaining a solid frame of reference are simulation models in which there is a breakdown of the pertinent products.

This quantitative exercise will provide clear indicators of the economic viability of this option. In fact, the necessary imports of inputs and equipment and the amounts of investment involved do not come to unattainable sums. Certain kinds of infrastructural works for irrigation, energy and transport may cost considerable amounts, but in general, given their relatively long lead times, they do not demand immediate large disbursements and are spread over time. Quantitatively verifying that the essential food basket could reach the entire population in a period of six to eight years, with an annual average investment that will not exceed 8% or 10% of the product and with imports that do not demand external financing, is certainly a possibility worthy of very serious exploration. If, furthermore, it is borne in mind that this type of development absorbs the largest amounts of labour, it will be concluded that in the face of a conventional type of growth that is now economically unfeasible, this option could be a solution that is also politically viable. It should not be forgotten that the consolidation of democratic régimes requires a drastic reduction in extreme poverty, which means producing certain goods and services while at the same time increasing job opportunities.

An option of this sort would also have to contemplate some redistribution of the population through programmed internal migrations.

In those countries where there are very uneven population/land relationships reflecting on the one hand densely populated areas and, on the other, nearly empty regions with great potential, the occupation of the territory should not be the result of isolated, spontaneous acts, but a response to a deliberate aim of the development policy. In the case under analysis, the expansion of agriculture and agro-industry demands mature consideration of the spatial distribution of the population.

With regard to the adaptation of technology and the possible development of domestically-produced technologies in these economies of difficult viability, efforts should be concentrated on the processes used in the essential and complementary areas. Diversifying efforts only leads to shortcomings and to inadequate achievements, and it soon becomes evident that such attempts were unsuccessful and left very meagre results. In this sphere, too, the principle of selectivity must be strictly respected, in the knowledge that there will be fields that must consciously be left aside, only to be tackled when conditions improve in the future. When there is a shortage of resources, there is absolutely nothing to justify

the continuation of a highly diversified technological process, with the results already known. Concentrating on a limited technological spectrum, however, can yield better fruits. As the industrialization process becomes more vigorous, its own dynamic will provoke a chain of modernization.

Special emphasis will have to be given in these economies to a reassessment of the processes of integration. There is a clear understanding of the factors that impeded significant achievements in the past, and it seems necessary to examine new modalities. In this respect, economic complementation with neighbouring countries, the identification of geoeconomic spaces that could permit balanced trade, and the creation of binational projects could give rise to new proposals in this sphere. There can be no doubt that this subject, which is of vital importance in devising a type of growth that meets basic needs, deserves in-depth research and a rigorous evaluation of the options for economic complementation. The generally small size of the economies of difficult viability requires research into new trade formulas as a key component in securing greater economic growth.

VI

The adaptation of planning

A change in the course of development as proposed here assumes a delicate combination of State and market intervention, of public and private property, of social and individual logic: in short, of the conciliation of interests and national accords. Nevertheless —without this implying any restriction of private enterprise— it is necessary to recognize a form of leadership in public activity that orients the conduct of the different agents. This proposal would have to fit within a political project of society and, as such, corresponds to government management supported by a majority consensus. As a political project, it implies the reappraisal of one of the mechanisms consubstantial with such a proposal: planning.

The rocky road travelled by most of the region's economies during the present decade

gives rise to some thoughts on the conceptual substance of planning and its application. As an instrument for government management of the socio-economic system and as a focal point for the meeting and convergence of the behaviour of the different agents, it is subject to evaluations and proposals that warrant broad and thorough discussion. As a method for achieving coherence and "optimization", there must be unavoidable adaptations. The problems which the crisis has brought with it, and the so-called "technological revolution", have effects that any proposal for renovation in planning matters must take into account.

It has already been said that in developing mixed economies, the dichotomy between planning and the market is a false dilemma. It has been held instead that the real dichotomy is

between planning and uncertainty.³ As the problems existing in the region cloud the horizon and the conjunctural policies of trial and error are repeated with monotonous regularity, new proposals that reduce uncertainty and point to concrete options will be demanded. To plan or not will be less and less an ideological debate when discussing underdevelopment and examining the possibilities for overcoming it. Ideological antagonisms will appear in the examination of the content of the different options, but if they are presented with rigorous accuracy and the existing restrictions are heeded, then the relevant consensus can emerge.

There can be no doubt that the planning efforts undertaken in previous decades, although registering certain types of achievements, have not given the results expected, and even less so in the times of crisis afflicting the region. Although there seems to be no question as to the need for planning some parts of the content and methodology of planning are not appropriate for providing answers to the existing problems. Discussions should be held on how to plan now, in the light of the existing problems and the needs hindering the management efforts of governments.⁴

In economies of difficult viability, the renewal of planning also has its special features. Below, some reflections are put forward with the aim of putting together an agenda for the review and discussion of items concerning a new course for planning, particularly in the economies dealt with in this work, one the understanding that the underlying idea is to divert the type of growth primarily towards the satisfaction of vital and indispensable needs.

1. *The planning body*

A generalized phenomenon in economies of difficult viability during recent times has been the persistent weakening of the planning body, both as regards its institutional structure and its

weight in the decision-making process.⁵ Government management has been almost totally monopolized, with a few rare exceptions, by conjunctural concerns and short-term economic policy. The medium- and long-term view that characterized these bodies has not been a central concern of governments, and increasingly the view has been gaining ground that rather than looking at horizons far off in time, it is necessary to correct the monetary and balance-of-payments imbalances. Disciplining inflationary outbursts, promoting an export mentality, and restricting imports were and still are the goals that dominate the attention of government management. It is well known that persisting with these policies has the eventual result —although this is not the intention— of committing the country's economy to a particular course not only now but also in the future. At all events, the planning bodies have not always been recognized as having faculties at this level of economic policy and a sort of "downgrading" of a position that had already suffered some previous deterioration was almost natural. However, the explanation for this relative loss of specific weight must be complemented with another factor: the de-actualization of proposals involving strategies and plans based on conventional approaches that did not respond directly to the problems that were eating away at these societies. The proposals began with a qualitative discourse about the economic dynamic, external vulnerability, dependence, income concentration, etc. The only concrete items were estimates of the growth rates of the global, sectoral and regional product and the sizes of the gaps and macroeconomic imbalances. In short, an enormous gap grew up between these proposals and the problems afflicting the region's populations, thus inhibiting participation and the acceptance of responsibilities.

In this process of weakening or denaturalization of the planning bodies as such, either there has been a brusque change of approach, with their concern being centered on current, immediate problems, or else their most capable offi-

³Alfredo Costa-Filho, *La democracia frente al reto del Estado eficiente*, paper presented at the First Latin American Meeting on Economic Planning and Public Administration, Buenos Aires, 23-26 September 1987.

⁴Carlos A. De Mattos, "The State, decision-making and planning in Latin America", *CEPAL Review*, No. 31 (LC/G.1452), April 1987.

⁵ILPES, *Cooperación e integración regional en la reactivación y en el desarrollo: el papel de la planificación*, paper presented at the Sixth Conference of Ministers and Heads of Planning of Latin America and the Caribbean, Havana, 23-26 May 1987.

cial have been transferred to organisms directly linked to short-term management. Either way, these bodies have turned their backs on the subject of development and planning *per se*.

If, in these economies of difficult viability, it were decided to shift the type of growth in the direction outlined in the foregoing pages, profound changes in the functions of the planning body would become inevitable, naturally giving it a clear status within the public apparatus. Needless to say, the first task under these changes would be to reconstruct the planning apparatus through the recruitment of the top planning experts of each country. Rather than merely increasing their number, the idea would be to form a select group of professionals of proven intellectual background, with a clear talent for dialogue and discussion, acutely aware of the realities of each country and convinced that the achievement of consensus and agreements has become a basic requirement for the success of national political projects.

The true status of the planning body derives not from its location in the organizational pyramid of a government, but from the excellence of its components and the importance of the functions that it performs. Small planning bodies can have a high capacity to mobilize discussion of the crucial points in an economic policy, a strategy or a plan and thus become a vital nucleus in the decision-making process. Simultaneous attention to the short term in an ongoing effort to make the progress of the economy compatible with pre-established medium- and long-term goals is an unavoidable part of the attempt to reduce uncertainty and overcome the crisis.

The well-known functions that are customarily listed as typical of a planning body would have to be adapted to the circumstances that the economy of difficult viability is passing through and the changes that would affect its type of growth.

2. Consensus

The guiding principles of a new type of development—selectivity, austerity, efficiency, equity and concertation—generate tasks for the planning body that require strict supervision of their fulfilment in each of the evaluations of the prop-

osals under consideration. Both in evaluating projects and in appraising economic policy measures, in general it would be necessary to examine the degree to which the principles are respected and the ways in which they may have been violated. Decisions on what is essential or dispensable, the dimensions and alternative technologies of a project, business and social cost-benefit relations and the degree of consensus or disagreement call for clear arguments by the planning body, and this requires rigorous economic calculations and well-thought-out qualitative analyses. Only on these bases can the planning body give adequate technical support for the consensus, which in this proposal acquires priority importance.

As already mentioned, the harsh realities that these economies are living and the imperative need to find a solution have given rise to a greater inclination towards co-operation and consensus among the economic agents, social groups and political parties. Understandings that were unthinkable a few years ago seem to be feasible today; antagonisms seem to be giving way to understandings and concessions. Dialogue and discussion seem to be coming to the fore as a response to the threat of prolonged economic stagnation or even decline. Nevertheless, these rather spontaneous inclinations do not have an organic, systematic channel in which to run. It is the very society in these economies that is demanding a planning function that could be extraordinarily fertile if it were to become permanent: that of acting as the centre of discussion, evaluation and convergence as regards the consolidation of development policies.

With regard to co-operation and consensus, at least two levels should be distinguished: business/labour and political. On the one hand, there is the need to reconcile the interests of entrepreneurs and workers; on the other, the need for agreement among the most representative political groups. The subject of these meetings cannot be limited merely to economic growth rates or investment coefficients, of course; it will also be necessary to take a stand on much more concrete variables such as wages, prices, employment, productivity, profits, production goals for particular goods or services projects and their economic and social impacts, financing, etc. In past efforts to generate agreements, the discussion

has been dominated by political struggles, often of a sectarian nature, in which it was easy to anticipate unsuccessful results. When discussions on concrete variables have been promoted and scarcity constraints have been taken into account, the positions taken have been much more serious and have come much closer to understanding. The circumstances have given rise to more mature attitudes, and there is an increasingly correct interpretation of economic problems and social phenomena. Economic calculation and the search for common ground reduce excessive politicization and compel responsible stands.

3. The generation and evaluation of options

In the countries of the region, and especially in the relatively less developed ones, there is an appreciable number of project ideas and profiles, as well as a large variety of economic policy proposals. However, there continues to be an acute lack of fully formulated projects with their respective evaluations in terms of their direct and indirect impacts on the fundamental socio-economic variables. Likewise, the many economic policy proposals which exist are only broad concepts and are not accompanied by any evaluation of their impacts on the socio-economic system.

A continual function of a new type of planning would seem to be that of supplying a methodology whereby those preliminary proposals could be processed in order to determine their viability and consistency through a primary test before embarking on a more exhaustive study. The existing pre-investment mechanisms involve high costs and are not completely in keeping with the principle of selectivity proposed in this study. The easy access to modern information processing technology would make it possible, through simulation models, to design adaptable, inexpensive methods for assimilating ideas, than evaluating them, and finally developing or rejecting them after closer study. An inventory of the investments made in these countries makes it very clear that some of them should never have been made, or else were implemented at the wrong time and in incorrect

amounts. On the other hand, projects that today demand urgent financing were ignored in the past, at the same time that investments were made which are now judged as being erroneous. A methodology designed in the direction outlined here would also have the advantages providing transparency in the adoption of decisions, promoting healthy social criticism, and dissipating the illicit pressures that often tend to disturb decision-making. The evaluation of the technological options associated with each project should receive special attention.

Something similar could be envisaged for the evaluation of economic policy proposals, although it must be acknowledged that in this field—much more than in that of projects—there is no single test model, just as there is no single interpretation of the functioning of the socio-economic system. Nevertheless, if such evaluations were explicit and were carried out with technical strictness, the assumptions would be clarified and the discussions between the opposing sides would centre on substantive aspects, thus giving the resulting decisions greater solidity.

4. Planning priority areas of action

In the particular case of the economies dealt with in this study, planning—overall, sectoral and regional—must also discriminate between the essential and complementary areas and the subsidiary area. Indeed, the principle of selectivity demands that the planning process should be concordant with the essential and priority aspects.

In the case of the essential and complementary areas, it is possible to consider a methodology that combines planning for each of the products and services included in the basic "basket" with planning for the entrepreneurial units that comprise the complementary area. The rigorous selection of essential goods and services makes possible detailed consideration of each of them, and their production functions help to identify the respective linkages within the economic structure. Access to modern computer science makes it possible to work in as detailed a way as desired, and in view of the small

number of goods and services to be examined in detail the collection of the necessary information does not create insurmountable problems.

It must be stated emphatically that in this type of economy, in order to guarantee greater levels of efficiency and productivity and more effective forms of participation and co-operation, it is essential to work at a disaggregated level. Thus, the examination and discussion of concrete subjects must be part of the debate and the dialogue, and this will enable the different agents to assume responsibilities and participate effectively and not just formally in putting together the development policy and applying the plans.

Planning that identifies products, specific services and economic units obviously facilitates a rigorous linkage between the real and financial spheres (that is, production and investment) and financing, incomes and prices. Thus, it is possible to shape a methodology that permits the planning of the true priority areas. This is not to say that the rest of the economy is not planned; the point is that the proposal centres on a different and more disaggregated type of planning for the essential and complementary areas. Just as, with the passage of time and the achievement of goals, the basic "basket" can be enlarged, so this disaggregated planning will cover a larger number of goods and services, in a gradual process of expansion and fuller coverage. Behind this proposal lies a partial concept of optimization in which the "criterion" function is strongly conditioned by the satisfaction of basic needs and the absorption of labour. This partial concept of optimization is proposed deliberately, because the constraints due to shortage of resources, which must also incorporate the time factor in order to confront the acute problems, imposes a requirement of viability and an ethical objective of the pursuit of equity.

This undoubtedly involves a significant modification of the conventional work of planning bodies. Besides considering sectors, branches of activity and regions, the proposal to identify products, services and enterprises as a way of guaranteeing the fulfilment of a development policy also responds to the aim of transforming the planning apparatus into a key tool of the decision-making process.

5. *Planning as a management tool*

As noted in previous pages, one of the typical problems of economies of difficult viability is that of management in the public apparatus in general and in the government in particular. Very limited organizational capacity and inefficient functioning of the administrative bureaucracy are notorious and generalized features of these economies. Although similar assessments also apply to the private sector, it is in the public sphere that planning can perform a more direct function as a management tool.

The broad political consensus occasionally reached in these countries have run into serious deficiencies of management *per se*. The capacity to govern, of which socio-political agreement is a basic component, has tended to suffer upsets caused precisely by difficulties in executing and implementing those fundamental political agreements. This aspect of government management has suffered from a sort of neglect among the concerns of government, and it has been assumed that the public machinery will automatically accommodate to the mass of laws, decrees, regulations and ordinances, responding without fail thanks to the vitality of the national political project. Later analysis of the problems that such projects have confronted, however, reveals that management weaknesses have been a substantial obstacle.

The increase in management ability is not, of course, the exclusive result of a government's political will and strength, even in authoritarian régimes. It is a gradual, difficult process connected with the training of human resources, proper organization of the public apparatus, and the mature exercise of social criticism. Naturally, in these economies the existence of a plan is an unavoidable requirement for avoiding improvisation, duplications and contradictions and incorporating the attributes typical of an efficient public administration. Nevertheless, conventional planning in these countries has been unable to contribute to the improvement of management ability, principally because it has been characterized by a high level of abstraction. Once the requirement of co-operation around a development policy is fulfilled and a viable strategy and plan are accepted, it is still necessary to guarantee their execution. A form of planning that identifies products, services and economic

units has greater prospects of assigning specific responsibilities and, hence, of demanding the fulfilment of concrete goals. There can be no doubt that if a planning process takes place within a framework of solid socio-political co-operation and a genuine participatory exercise, the execution of the different types of plans will once again depend mainly on the type of variables and their disaggregation. The customary incoherencies in government management are not easy to identify, and much less to put right, when only working with macrovariables. It therefore seems extremely useful that one of the functions of planning be precisely that of enhancing management ability, establishing concrete goals and responsibilities and periodically supervising their fulfilment.

The long-standing but increasingly topical subject of decentralization is of foremost importance in these economies. Indeed, if stress is placed on co-operation and participation for a new type of development, reform of the State machinery and the concept of decentralization and regionalization are consubstantial with that objective and with the democratization of the economy.⁶

The concept of disaggregation does not only mean differentiating between products, services and economic units, but also establishing time-units that are not necessarily annual. There will be variables for which annual information is appropriate, but there will be others—both quantitative and qualitative—that should refer to quarters, months, weeks and in some cases even days. The application of a plan can be evaluated in terms of the fulfilment of the respective paths of the variables that comprise it, and in the final analysis this assumes a form of government management in which co-ordination, coherence and efficiency are achieved through planning.

6. Forecasting

This is, of course, a traditional planning function. However, when considering the particular problems of these economies, the term "forecasting" may warrant some qualifications. To

⁶Sergio Boisier, *Decentralization and regional development in Latin America today*, CEPAL Review, No. 31 (LC/G.1452), April 1987. See especially section III.

begin with, it is necessary to anticipate the effects of the current technological revolution on these economies: product substitutions, price variations, new technological processes that can be incorporated, forms of obsolescence that can be foreseen, the launching of new products, etc. The need to build dynamic comparative advantages demands timely and searching studies and investigation of technological processes before embarking on commercial-scale production. Clearly, the identification and construction of this type of comparative advantage is not a spontaneous process, as largely occurred in the case of natural resources endowments. Nowadays, this calls not only for imagination, but also for much more research and less passive conceptions of foreign trade; the idea is to build advantages on the basis of real resources that have not yet been exploited and that the new technologies could make profitable. Take for example the extraordinary potential of natural medicines in the Andean countries: tourism for pleasure may give way to tourism for health. The basic idea is to gather information on future events that can affect the economic performance of these countries. It would be very difficult to cover the entire range of technological development in a timely manner, but it would be prudent to make a selective effort to examining whatever could affect the main exports and imports, and especially ways of exploiting and using the country's own resources. There have already been significant technological changes in the sphere of agriculture and agroindustry. Nevertheless, because of its importance in a strategy designed to meet basic needs, and in view of the very promising achievement in biotechnology, especially in genetic manipulation, a serious and careful examination of the real potential of these advances in a given economy must not be postponed. The concept of forecasting must be oriented in this sense and not only in terms of the evolution of the international economy.

7. Communications

Any examination of the way in which types of growth and styles of development are shaped in economies of difficult viability will assign decisive importance to the use of the mass media. On the basis of the principle of free enterprise and

freedom of the consumer, market behaviours are moulded in a way that, in the final analysis, is almost compulsive. This subject has been widely discussed and further comment is unnecessary: a study has already been made which talks of an "information economy" and addresses its development and its implications for the productive apparatus and social conduct.⁷

Any attempt to modify the prevailing style must face up to this crucial problem. There is no doubt that this is an extraordinarily complex and highly controversial subject. It is easy to see the resistance that can be aroused by any effort to discipline the unfettered market manipulation going on in these economies.

In the past, emphasis has been placed on the need for massive dissemination of the content of plans in versions intended for the layman, as a way of creating an awareness among the population about their goals, and often with the aim of arousing reactions that will encourage participation. In reality, the cases where there has been some success in this aspect have been those in which the information thus disseminated gave concrete details of variables directly indicating those affected and those benefited. Without questioning the advisability of these procedures, it must nevertheless be agreed that they are insufficient and even ineffective when what is sought is to change the development style in the direction outlined in this work. In the face of an ongoing and overwhelming campaign to promote the consumption of new goods and services (almost always unnecessary in societies where the poor form the greatest number), such efforts are in vain.

Among the functions which planning must fulfil in these economies and for the purposes mentioned repeatedly above, one of the most important is that of establishing norms to regulate abuses. In this connection, some measures worthy of more detailed examination have been suggested, such as significantly raising the advertising and publicity costs for dispensable items, to the direct benefit of action to satisfy basic needs. The fact that the economies in question are mixed, so that private enterprise has an

important role to play in them, means that consideration should be given to regulations of a balanced nature which respect the creativity promoted by the market and its inherent mechanisms while on the other hand avoiding excesses and distortions that run counter to what is vital and equitable.

8. Other functions

The adaptations of planning functions described above also imply changes in functions that are more related to planning methodologies and techniques. Economic calculation and the achievement of coherence in spatial, temporal and sectoral matters and in the real and financial spheres must be modified in the direction of more disaggregated work in the essential and complementary areas, respecting the principle of selectivity.

The subsidiary area, although not warranting the priority attention of planning, cannot be ignored either. Although it is predominantly influenced by market laws, it is vital to take its evolution into account, inasmuch as it weighs heavily in the general economy. It should be remembered that the essential area consists, at the beginning, of a very selective group of goods and services, and its limited initial share in the economy means that the subsidiary area has a significant presence.

With regard to the complementary area, those activities linked directly to the essential area also deserve priority attention and disaggregated treatment of their main variables. It should be borne in mind that this area generates goods and services for both the essential and, the subsidiary areas; for this reason it is necessary to identify the main economic units in it, so as to achieve the goal of planning by enterprises.

The review and control of the execution of plans will also undergo some change from traditional methods. In the most conventional planning, this function was generally performed on an *ex post* basis, in a very partial manner and without this providing useful information for promoting rectifications. The differentiation of areas, products, services and business economic units permits a more detailed review of the progress of such variables. The divorce, so often

⁷Instituto para América Latina (IPAL), *Comunicación y desarrollo*. José Antonio Mayobre and Rosario Elias (comps.), Lima, 1987.

denounced, between the intentions of plans and the actual economic policy actions taken can be perceived in a very timely manner, either in order to confirm the original intentions of the plan by discarding management measures which infringe it, or to rectify the courses planned as a consequence of the adoption of economic policy measures.

This means identifying the "nerve centres" in the fulfilment of the plan and the variables through which it is possible to detect the most serious divergences, so that the supervision and

control function can be more in the nature of anticipation than *ex post* observations.

In the special case of economies of difficult viability, because of the weaknesses in their systems of production and administrative management, successive rectifications and repeated trials are to be expected in the early stages, as part of a gradual learning process. Consequently, the plans will have less of the character of texts and more that of tables with quantitative and qualitative data that better reflect the objectives and the degree to which they are being fulfilled.

VII

A final note

When the basic ideas contained in these pages were discussed with other professionals concerned about development, they came to the nearly unanimous conclusion that, in fact, little was known about the special features of these economies. Indeed, it also seemed to be generally accepted that certain topics —because of their importance for the large- and medium-sized countries of the region— tend to dominate general interpretations of development, obscuring the interpretations that would correspond to the economies of difficult viability. Situations as determinant as the incipient import substitution process that characterizes most of the less-developed countries today, or the stage they have reached in their consolidation as nation-States are far from what happens in the more "representative" economies. The native and mestizo element of their populations, as already noted, brings another dimension into economic, social and political analysis which is worthy of more detailed treatment, above all in the examination of future options.

There is no doubt that the design of strategies and plans is the responsibility of the citizens of these countries and, in fact, it can be seen that their political and intellectual circles are eager to clarify the alternatives open in this respect. There is of course an enormous amount of work to be done in consolidating economic strategies into viable political projects: a task for the representative political groups of each of these countries. In that respect, the option offered for examination in this study is no more than one item in a vast agenda for clearing up unknowns or incorporating new concerns.

Rather than offering any novelties, these pages reflect an ongoing desire to draw more attention to this part of the region. Differentiating between what is reasonable or debatable in these proposals, or between what is old and obvious or new is not the most important concern: what is much more important is to understand that we still know little about these societies and economies and that it is urgently necessary to help clarify their future path.



The genesis of import substitution in Latin America

*Richard Lynn Ground**

The process of import substitution that got underway in Latin America in the train of the Great Depression was principally a spontaneous response to the radical deterioration of the international prices of primary products, to the breakdown of the multilateral international trading system (and the collapse of world trade) and to the abrupt reversal of resource transfers.

The major Latin American economies recovered sooner and more vigorously from the Great Depression than did most developed countries or most other underdeveloped areas. The contrast with the outcomes observed in the wake of the adjustment to the international debt crisis in the 1980s could scarcely be more marked.

In the first and second parts of this study the magnitude of the external shocks is briefly documented, the domestic policy response is examined, and an overview of the growth performance of the Latin American economies during the Great Depression and World War II is presented. In the third part the Prebisch thesis and the origin of price distortions in Latin America are analysed.

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This article is a slightly modified version of a chapter from the essay entitled "The economic development of Latin America: Towards a contribution to a new synthesis of development theory" which was written by Richard L. Ground and Andrés Bianchi. This essay was presented at a seminar entitled "A Comparative Study of Economic Development in Asia and Latin America" which was held in Tokyo from 22 to 24 February 1988 under the sponsorship of the Institute of Developing Economies.

I

The Great Depression and the genesis of import substitution

Although the terms of trade of most Latin American countries decreased steadily over the course of the 1920s in the wake of the gradual deflation of world price levels and the build-up of massive stocks of primary products following the spectacular rise in international prices (especially of commodities) in the last years of World War I, in general that decade was one of high growth in Latin America as world demand remained buoyant and capital flowed into the region on an unprecedented scale. Thus, in spite of the fact that the average international price of the most traded primary products plunged about 40% between the early and the late 1920s,¹ countries like Argentina and Colombia registered overall growth rates of almost 6% and more than 7%, respectively, over the course of that decade, while in the 1925-1929 period Chile achieved a growth rate of almost 11%, Colombia and Brazil recorded rates of over 7%, and Argentina and Honduras experienced one close to 6% (table 1).²

1. *The extent and transmission of the industrial-country depression*

Between 1929 and 1933 the index of the gross domestic product of the industrialized countries as a whole dropped 17%.³ In the United States, which had become Latin America's most important trading partner in the wake of the First World War, the depression was especially severe. In effect, between 1929 and 1933 output

¹See D. Felix, "Alternative outcomes of the Latin American debt crisis: lessons from the past", *Latin American Research Review*, vol. 22, No. 2 (1987), table 3. Note that between 1923 and 1929 the world stocks of the major international commodities more than doubled.

²See also ECLAC, *Serie histórica del crecimiento de América Latina*, "Cuadernos Estadísticos de la CEPAL" series, No. 3, Santiago, Chile, 1978.

³B. Eichengreen and R. Portes, "The anatomy of financial crisis", *Seminar Paper No. 375*, Institute for International Economic Studies (University of Stockholm) (January 1987).

Table 1

**LATIN AMERICA: EVOLUTION OF GROSS DOMESTIC PRODUCT
IN SELECTED COUNTRIES, 1920-1950^a**

(Annual average growth rates)

Country	1920-1929	1929-1939	1939-1945	1945-1950
Latin America	...	...	3.4	5.3
Argentina	5.7	1.6	2.1	3.9
Brazil	3.3	3.0	2.4	6.1
Colombia ^b	7.3	3.8	2.6	4.7
Costa Rica ^c	...	...	...	6.4
Chile ^d	...	...	4.0	2.9
Ecuador	...	...	4.2	9.4
El Salvador	...	...	...	8.8
Guatemala ^c	...	...	...	0.8
Haiti	...	...	...	1.2
Honduras ^b	5.4	-1.1	3.5	4.1
Mexico ^e	1.7	2.1	6.2	6.3
Nicaragua	...	...	...	6.3
Panama	...	...	...	0.5
Paraguay	...	...	0.4	2.1
Peru	...	...	...	4.5
Dominican Republic	...	...	...	8.4
Uruguay	...	...	1.7	5.4
Venezuela	...	...	5.3	10.6

Source: ECLAC, on the basis of official data.

^a 1970 prices.

^b 1925-1929.

^c 1946-1950.

^d 1940-1945.

^e 1921-1929.

nosedived, falling by more than 29%. Of the region's other major trading partners, the contraction of economic activity reached 30% in Canada, 16% in Germany and 11% in France, measured between their respective pre-depression peaks and depression era troughs. It was only in Great Britain, which remained the principal trading partner for countries like Argentina and Uruguay, that the downturn was more in the nature of a recession, as output there fell but 5% between 1929 and 1931.⁴

As a result of this involution of economic activity, unemployment simultaneously soared to unprecedented heights. Indeed, in the United States the rate of unemployment skyrocketed from 3% of the labour force in 1929 to more

than 22% in 1932, while over the same period in Canada it climbed from less than 2% in 1928 to over 19%, in Germany it more than quadrupled from 3.8% to 17.2%, and in Great Britain it rose from around 7% to over 15%.⁵

Price deflation broadly paralleled the shrinkage of economic activity in North America, but considerably outstripped the contraction of output in the other major industrialized countries. Thus, in the United States the price level, after having declined 15% over the course of the 1920s, dropped 25% between 1929 and 1933, and in Canada it fell almost 30% in the first years of the depression. On the other hand, the average decline in prices in France, i.e., 30%, was almost three times the decrease in gross domes-

⁴A. Maddison, *Phases of Capitalist Development* (Oxford: Oxford University Press, 1982), table A6.

⁵A. Maddison, *op.cit.*, table C6.

tic product; in Germany it was more than double the fall in the product, and in Great Britain it was likewise double the reduction in economic activity, though it was thus considerably less pronounced than in the other developed countries.⁶

As a result, the decline in money demand in the industrialized countries, and hence the nominal value of world trade, far outstripped the contraction of economic activity in these countries and reduction in the quantum of world imports. In effect, the index of the quantum of imports of the industrialized countries, taken together, dropped 23.5% between 1929 and 1932, but the nominal value of the imports of the latter plunged 49%.⁷

Moreover, the extent of the decline in the international prices of primary products was considerably greater than the average decrease in international prices and hence markedly greater than the deflation of the international prices of manufactured goods and of services. Thus, the terms of trade of the developed countries as a whole actually improved almost 15% between the peak level of activity recorded in 1929 and the depths of the Great Depression in 1935.⁸

Also underlying the observed disintegration of world merchandise trade was the violent reversal of resource transfers. Thus, while the United States and Great Britain invested more than US\$11.3 billion abroad between the mid- and late 1920s on a net basis, between 1930 and 1934 the industrialized countries repatriated US\$8.4 billion of capital from the rest of the world, and in the 1935-1938 period they brought home another US\$4.8 billion.⁹ The total transfer of resources from debtor to creditor nations over the course of this period was considerably larger, especially during the first part of the 1930s, when a good number of debtor nations continued to effect at least partial payment of interest on their foreign debts. Remittances of profits continued, albeit on a much reduced scale, throughout the period. Consequently, domestic income, and especially domestic absorption, fell

⁶*Ibid.*, table C3.

⁷Calculated from data in B. Eichengreen and R. Portes, *op.cit.*, 1987, table 3.

⁸*Ibid.*

⁹*Ibid.*, pp. 16 and 19.

significantly less in the developed countries than did output.

The fact that the contraction of the quantum and particularly of the value of the imports of the industrialized countries far surpassed the extent of the decline in their economic activity was due, of course, to the erection of gigantic trade barriers and massive subsidization of commodity production.¹⁰ If these countries had instead resorted mainly to exchange rate policies to adjust relative prices, the extent and duration of the fall in economic activity and especially of world trade would have been notoriously less marked, notwithstanding the decidedly procyclical monetary and fiscal policies most of them pursued until the eve of World War II.¹¹ In that case, the course of world economic history, and perhaps especially that of the Latin American countries, would have been considerably different.

2. *The magnitude of the external shocks*

The shocks transmitted to the rest of the world thus greatly magnified the impact which the Great Depression had had in the industrial countries themselves. Moreover, the external shocks channelled to the Latin American economies were especially massive, owing especially to the preponderant influence of the United States economy in the region.

Although the decrease of the export quantum for the region as a whole was not much greater than the decline of the import quantum of the industrialized countries, i.e., 27% versus 23.5%,¹² the collapse of the nominal value of Latin America's exports was out of all proportion to the drop in the nominal value of industrial country imports as well as to the deflation of

¹⁰For an overview of the radical quantitative trade restrictions imposed by the developed countries in this period see, for example, A.G. Kenwood and A.L. Loughedd, *The Growth of the International Economy 1820-1980* (London: George Allen and Unwin, 1983). Note that between 1928 and 1931 the world stock of the most traded primary products expanded almost 90% (Felix, *op.cit.*, 1987, table 3).

¹¹See the analysis presented in B. Eichengreen and J. Sachs, "Exchange rates and economic recovery in the 1930s", *The Journal of Economic History*, vol. XIV (December 1985), pp. 925-946.

¹²B. Eichengreen and R. Portes, *op.cit.*, 1987, tables 3 and 4. Nevertheless, in a few cases the extent of the contraction of the export quantum reached catastrophic proportions, as for example in Mexico, where it dropped over 41%, but especially in Chile, where it actually plunged more than 71% (table 6).

the money value of the industrial countries' gross domestic product. Thus, for example, the current value of Chile's exports plummeted 88% between 1929 and 1933; in the case of El Salvador the value plunged 78% between 1928 and 1932, and in Mexico, Venezuela, Peru and Argentina the drop was between about 70% and 75%, while Colombia's export income fell 67% and that of Brazil, 63%.¹³ By way of contrast, the money value of the imports of the industrialized countries dropped somewhat less than 50%.

On the other hand, while the region's import prices also of course declined, the fall was considerably less than the nosedive of the prices of the region's exports. In effect, for the region as a whole the terms of trade collapsed almost 48% between 1928 and 1932 (see table 2). Those of Venezuela deteriorated no less than 65% between 1930 and 1935, those of El Salvador dropped 53% and those of Brazil, somewhat less than 50%. In Chile, Colombia, Peru and Mexico they dropped between 45% and 40% from peak (as early as 1928) to trough (as late as 1934); the declines suffered by Ecuador and Argentina were somewhat less, i.e., 38% and 35%, respectively.¹⁴

In sharp contrast to the outcome for the industrialized countries, the purchasing power of Latin America's exports contracted much more markedly than the export quantum. On a regional basis the real value of exports dropped 48% between 1929 and 1933, or close to twice as much as the decrease of the export quantum. In this same period the real value of exports of the developed countries declined by only 13%, i.e., less than half the extent of the reduction of their total quantum of exports.¹⁵

If the ratio of the value of exports to the gross domestic product of Latin America were of the order of 40% in 1929, the direct loss from the radical deterioration of its terms of trade would have exceeded 12% in 1933 alone, while the total drop in domestic income in 1933 as compared to 1929 in consequence of the turnaround in the real value of its exports would have

approached 21%. In contrast, if the contribution of exports to gross domestic income were of the order of 10% in the developed countries in 1929, the corresponding losses suffered by them would have been only 1.5% and 2.4%, respectively.

Nevertheless, the magnitude of the depression of the quantum of Latin America's imports was even greater than the compression of the purchasing power of its exports. Indeed, between 1929 and 1933 the region's import quantum plunged more than 60% (see table 3). This additional adjustment was provoked by the violent reversal of resource transfers. As a result of the massive repatriation of foreign capital and the skyrocketing of the *ex-post* real international interest rate in the train of the sustained deflation of world price levels,¹⁶ domestic absorption was compressed 24% between 1929 and 1932 and 26% between the former year and 1933 in Latin America, i.e., almost twice and three and one-half times as much, respectively, as the declines in the region's gross domestic product in those two periods.¹⁷

But the most remarkable feature of this catastrophic episode is that the decline in Latin America's gross domestic product not only corresponded to merely a small fraction of the massive external shocks it supported, but was also less than the decrease in economic activity in the developed countries, in circumstances in which the (self-inflicted) shocks the latter had to contend with were, as we have seen, much less

¹⁶Between 1929 and 1930 the *ex-post* real interest rate (i.e., the nominal U.S. interest rate deflated by the change in the unit value of U.S. exports) rose from about 3% to close to 16%, after which it shot up to 33% in 1931 before descending to around 18% in 1932 and turning negative in 1933, as reflation commenced. However, if we focus on the *ex-post* real international interest rate that Latin America had to contend with (i.e., the nominal U.S. interest rate deflated by the change in the average price of Latin America's exports), the leap was much more dramatic still, since it soared from more than 14% in 1929 to 50% in 1930 and almost 52% in 1931, before declining to around 19% in 1932. In 1933 it rose to 27%, but dropped to 6% in 1934 and became negative in 1935. Can there be much doubt that the interest rate is the ultimate sticky price? (The evolution of the unit values of U.S. exports appears in B. Eichengreen and R. Portes, *op.cit.*, 1987, table 3, although the variation between 1928 and 1929 was estimated on the basis of A. Maddison, *op.cit.*, 1982, table E3, and those of Latin America appear in ECLAC, *op.cit.*, 1976, 14 and country tables.)

¹⁷This calculation assumes that the ratios of exports and imports to the region's gross domestic product were 40% and 50%, respectively, in 1929. Otherwise, the calculations are based on actual data appearing in ECLAC, *op.cit.*, table 4.

¹³ECLAC, *América Latina: relación de precios del intercambio*, "Cuadernos Estadísticos de la CEPAL" series, No. 1, Santiago, Chile, 1976, country tables.

¹⁴*Ibid.*

¹⁵B. Eichengreen and R. Portes, *op.cit.*, 1987, tables 3 and 4.

Table 2
LATIN AMERICA: EVOLUTION OF MERCHANDISE TERMS OF TRADE

Year	Export price index	Import price index	Merchandise terms of trade	Export quantum	Purchasing power of exports	Import quantum
1928	100.0	100.0	100.0	100.0	100.0	100.0
1929	90.6	96.2	94.2	103.1	97.1	106.4
1930	62.3	93.3	66.8	87.9	58.7	75.8
1931	41.8	79.2	52.8	93.0	49.1	51.9
1932	36.2	65.1	55.6	77.8	43.3	37.9
1933	29.3	56.6	51.8	81.2	42.1	46.3
1934	28.4	48.1	59.9	91.3	53.9	51.9
1935	31.8	48.1	66.1	105.6	69.8	56.1
1936	33.9	48.1	70.5	109.3	77.1	60.3
1937	38.1	52.3	72.8	120.4	87.7	75.7
1938	34.9	50.9	68.6	96.3	66.1	70.1
1939	33.8	49.5	68.3	101.8	69.5	68.7
1940	35.9	53.3	67.4	90.7	61.1	58.9
1941	40.1	57.6	69.6	94.4	69.2	60.3
1942	44.8	67.7	66.2	88.2	58.4	46.3
1943	49.7	73.5	67.6	96.0	64.9	47.7
1944	53.6	73.5	73.0	101.9	74.4	58.9
1945	54.6	79.2	68.9	111.3	76.7	65.9
1946	71.2	92.2	77.2	119.1	91.9	86.9
1947	89.7	115.3	77.8	121.1	89.7	119.1
1948	99.4	123.9	80.2	121.1	94.2	116.3
1949	93.6	123.9	75.5	111.3	84.0	103.7
1950	110.5	118.1	93.6	115.2	107.8	105.1
1951	130.4	141.2	92.4	115.2	106.4	130.3
1952	93.9	144.1	65.2	111.3	72.6	124.7
1953	93.9	134.0	70.1	123.0	86.2	114.9
1954	97.7	136.9	71.4	123.0	87.8	128.9
1955	87.3	139.8	62.4	130.8	81.6	128.9
1956	85.9	139.8	61.4	142.5	87.5	134.5
1957	88.1	141.2	62.4	146.4	91.4	155.5
1958	80.9	139.8	60.0	148.4	89.0	142.9
1959	73.0	135.4	53.9	162.1	87.4	138.7
1960	74.4	138.3	53.8	166.0	89.3	142.9
1961	74.4	141.2	52.7	171.9	90.6	145.7
1962	71.5	144.1	49.6	187.5	93.0	144.3
1963	72.2	144.1	50.1	195.3	97.8	140.1
1964	76.5	149.9	51.1	197.3	100.8	148.5
1965	75.1	152.7	49.2	211.0	103.8	149.9
1966	76.5	152.7	50.1	218.8	109.6	166.9
1967	75.8	154.1	49.2	220.8	108.6	174.0
1968	76.2	152.7	49.9	230.6	115.1	191.0
1969	78.4	155.6	50.4	246.2	124.1	206.6
1970	84.1	159.9	52.6	254.0	133.6	229.2
1971	79.8	164.9	48.3	275.8	133.2	146.7
1972	110.8	178.1	62.1	251.7	158.2	260.2
1973	129.9	204.2	63.6	304.0	193.3	301.4
1974	216.5	293.8	73.6	264.0	194.3	359.0
1975	218.6	325.3	67.2	240.5	161.6	345.2
1976	234.7	331.5	70.8	260.9	184.7	351.8
1977	269.9	358.0	75.4	271.0	204.3	374.9
1978	278.9	392.9	70.9	281.9	199.9	388.5
1979	340.8	458.7	74.2	310.1	230.1	418.2
1980	424.4	553.4	76.7	329.4	252.6	501.2
1981	418.9	581.6	72.0	358.9	258.4	515.6
1982	379.0	544.4	65.9	362.0	238.6	418.3
1983	341.7	522.3	65.3	401.8	262.4	328.9
1984	354.3	501.8	70.6	432.3	305.2	356.0
1985	337.4	493.5	68.3	427.0	291.6	363.4
1986	291.5	469.8	62.1	417.8	259.5	389.0
1987	311.6	487.6	63.6	438.4	278.8	410.8

Source: For 1928-1970, ECLAC; for 1971-1987, ECLAC data bank.

Table 3
**LATIN AMERICA: EVOLUTION OF QUANTUM OF EXPORTS AND IMPORTS
 OF GOODS IN SELECTED COUNTRIES, 1928-1950**
 (1963 = 100)

Year	Argentina		Bolivia		Brazil		Colombia		Costa Rica	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1928	126	150	...	...	49	68	49	76	...	...
1929	127	156	29	...	52	69	51	65	...	...
1930	88	137	26	...	57	41	56	34	...	...
1931	121	96	20	...	61	27	49	29	...	...
1932	111	73	23	...	42	25	50	24	...	...
1933	104	80	43	...	52	35	50	33	...	...
1934	109	88	56	...	58	38	53	41	...	...
1935	115	91	50	...	67	43	58	45	...	...
1936	104	96	37	...	74	44	65	51	...	...
1937	121	126	43	46	67	54	64	59	51	25
1938	78	119	33	57	81	50	67	55	47	28
1939	100	100	38	54	83	46	65	67	42	36
1940	85	86	45	53	69	41	69	47	35	31
1941	76	68	49	71	75	41	53	49	43	30
1942	74	56	56	68	57	30	58	26	39	20
1943	76	37	65	73	58	39	74	31	42	26
1944	83	37	65	71	68	48	48	37	35	28
1945	85	41	65	61	74	47	79	59	37	31
1946	88	81	65	68	91	60	82	73	36	36
1947	96	147	82	68	86	86	79	99	48	44
1948	87	164	89	72	90	77	80	80	62	34
1949	56	112	86	79	87	75	80	64	58	37
1950	72	101	84	54	70	85	70	86	55	42

Year	Chile		Ecuador		El Salvador		Guatemala	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1928	75	79	23	29	28	26	...	...
1929	80	100	23	29	25	29	...	...
1930	52	92	24	23	31	16	...	...
1931	48	48	18	16	30	13	...	...
1932	23	17	19	12	21	12	...	...
1933	33	19	17	13	30	14	...	...
1934	53	25	26	18	25	18	...	...
1935	54	38	28	23	24	15	...	...
1936	54	43	25	25	28	15	...	...
1937	76	48	26	21	37	17	41	32
1938	71	44	25	23	28	14	43	30
1939	64	56	25	23	33	16	41	30
1940	70	42	25	23	15	14	37	24
1941	77	49	24	19	24	16	37	23
1942	82	41	27	22	30	15	42	18
1943	75	42	34	20	33	16	41	19
1944	78	42	34	27	35	16	41	23
1945	79	45	29	27	31	18	51	25
1946	72	45	29	36	27	19	47	33
1947	72	47	28	42	36	28	56	33
1948	79	62	29	45	37	29	51	48
1949	71	75	26	48	42	29	45	52
1950	69	55	37	46	40	38	44	55

Table 3 (concluded)

Year	Haiti		Honduras		Mexico		Nicaragua		Panama	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1928	...	...	...	...	106	47	...	...	...	...
1929	...	...	...	...	106	54	...	...	...	...
1930	45	...	...	...	86	40	...	...	...	...
1931	45	...	...	...	87	26	...	...	...	...
1932	47	...	...	...	62	21	...	...	...	...
1933	70	...	...	...	667	24	...	...	...	...
1934	64	...	...	...	90	30	...	...	...	...
1935	49	...	...	...	92	31	...	...	...	...
1936	70	...	...	...	101	36	...	...	...	...
1937	57	...	53	30	119	46	24	115	33	42
1938	60	...	39	38	53	38	19	15	31	36
1939	66	...	54	30	50	35	20	17	32	41
1940	46	...	52	29	43	33	16	16	31	39
1941	56	...	53	29	47	49	14	22	24	52
1942	47	...	50	18	48	36	14	13	13	46
1943	53	...	25	23	56	43	17	23	13	43
1944	77	...	49	25	46	64	18	16	13	37
1945	72	...	61	30	54	76	15	17	19	43
1946	81	...	64	40	55	102	18	19	28	52
1947	77	...	79	49	56	103	17	24	34	58
1948	73	...	89	52	44	69	32	25	33	41
1949	90	...	84	49	50	60	26	27	32	41
1950	79	115	83	48	57	71	37	31	30	46

Year	Paraguay		Peru		Dominican Republic		Uruguay		Venezuela	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1928	...	...	34	...	...	...	...	...	10	41
1929	...	...	37	30	...	...	...	...	10	41
1930	...	...	34	22	49	22	...	...	12	38
1931	...	...	30	15	45	18	...	...	10	21
1932	...	...	26	11	52	17	...	...	10	16
1933	...	...	32	12	46	20	...	...	10	20
1934	...	...	38	21	51	19	...	...	12	17
1935	...	...	40	244	59	19	122	80	12	13
1936	...	...	42	25	62	19	100	94	13	18
1937	...	...	48	27	58	20	112	110	15	26
1938	57	...	39	27	64	21	107	106	16	28
1939	60	...	38	25	64	23	118	97	16	32
1940	48	...	33	24	59	18	111	97	14	29
1941	64	...	37	25	67	18	110	101	19	22
1942	65	...	30	19	37	15	64	86	12	14
1943	68	...	29	22	62	16	118	68	15	13
1944	66	...	30	26	94	18	111	69	21	29
1945	95	...	34	26	59	17	126	84	27	37
1946	102	...	30	32	73	24	121	113	31	52
1947	57	...	29	36	71	37	99	143	35	88
1948	63	...	29	33	61	42	97	109	41	117
1949	72	...	29	38	52	30	106	96	40	115
1950	76	...	35	39	57	31	129	118	45	98

Source: ECLAC, on the basis of official data.

violent. Whereas the composite index of industria country output dwindled 17% between 1929 and 1933, over the same period Latin America's gross domestic product fell by 13%.¹⁸ Moreover, the depression of output in the region's main trading partner was more than twice as severe as that which Latin America experienced, for the United States gross domestic product tumbled more than 29% in this period. While the decline in activity in other underdeveloped areas like Asia was slight during

the Great Depression, thanks, in part, to the fact that the shocks experienced were much less intense than those absorbed by Latin America (for example, Asia's export quantum fell almost as much as Latin America's but its import quantum fell less than half as much as that of the latter region between 1929 and 1933), the subsequent recovery of the Latin American economies was considerably stronger than that of the developed countries as well as that achieved in Asia.

II

The genesis of import substitution and the recovery of the Latin American economies

A number of authors have argued that import substitution in Latin America did not commence with the Great Depression but much earlier, perhaps as early as the nineteenth century in the largest economies of the region. While there is no question that the process of import substitution generated by the Great Depression in fact far surpassed in intensity and scope any prior process of import replacement, it is also true that a limited, gradual and stop-and-go diversification of the major Latin American economies did take place before the 1930s. But these observers are mostly right largely for the wrong reasons, focusing as they usually do on the supposed major role of tariffs in the early process of import substitution in Latin America.

More recently, in the unending debate over whether the terms of trade of developing countries have experienced or will experience a secular deterioration, mainstream critics of Latin America's post-World War II economic policies and performance such as I. Little and A. Krueger¹⁹ have observed that if the terms of trade of developing countries had experienced a

secular deterioration, they would have industrialized spontaneously, and therefore would not—and should not in any case according to basic tenets of trade theory—have needed to recur to protective tariffs and quantitative trade restrictions to foment industrialization. The point is, of course, that either the terms of trade of these countries have not deteriorated over time, or else the use of restrictive trade practices has inflicted unnecessary welfare losses without producing any gains associated with industrialization other than those that would have occurred as a result of the free play of market forces.

But this is precisely what happened in the initial phases of the diversification of the Latin American economies. In effect, both prior to the Great Depression and especially from 1930 to the Korean War, import substitution in Latin America was essentially in the nature of a spontaneous process induced gradually at first by a deterioration of the region's terms of trade from the late nineteenth century to the 1920s and then violently by the massive external shocks that pounded the region's economies in the 1930s. Telling criticisms have been levelled at the assertion that there was a secular decline in Latin America's terms of trade from the 1860s to the 1920s, and, the issue remains unresolved, but there is extensive documentary evidence that Latin America's terms of trade suffered a radical

¹⁸ECLAC, *op.cit.*, tables 3 and 4.

¹⁹I.M.D. Little, *Economic Development, Theory, Policy and International Relations*, New York, Basic Books, 1982; A.O. Krueger, *Alternative Trade Strategies and Development*, Chicago, National Bureau of Economic Research and the University of Chicago Press, 1983.

and enduring downturn from the later 1920s until the Korean War and that the region transferred a massive amount of resources to creditor nations during the first part of the 1930s after having received huge infusions of capital during the 1920s. Nevertheless, two apparent anomalies have to be addressed, i.e., the gaping hole in the neoclassical critique of the process of import substitution in Latin America, and the progressive build-up of restrictive trade practices in the region after the Korean War. The first of these is dealt with here.

1. *The catalytic role of external shocks*

First, a brief review of the facts is in order. If Latin America's terms of trade in 1928 are set equal to 100.0, the greatest point of deterioration was reached in 1933, when the index settled at a little under 53.²⁰ This downturn reflected a drop of more than 70% in the average price of the region's exports, and a decline of about 21% in the average price of the region's imports (see table 2).²¹

Between 1933 and 1937 the region's terms of trade registered a sustained recovery, but they continued to be situated far below the 1928 level. In the following three years a renewed, but less intense, deterioration occurred, so that at the beginning of World War II the index stood at 67% of its 1928 level. During the course of the war it fluctuated up and down, and in 1945 was somewhat higher than five years before. Subsequently it recovered strongly in the train of the postwar boom. Nevertheless, when the Korean War broke out it was still about 7% below the level observed in 1928, and from that point until the mid-1970s the region's terms of trade gradually declined more or less year-in and year-out.

²⁰In this connection it should be borne in mind that from 1919/1920 to 1928 the relative international prices of the main primary products dropped about 20%, i.e., even by 1928 Latin America's terms of trade were far below previous historical peaks.

²¹The data were calculated by ECLAC, on the basis of two indexes. For the 1928-1970 period the price weights reflect the structure of Latin America's exports and imports in 1963; for the 1971-1987 period 1980 price weights were used, and the two indexes were spliced together. For the years 1928 and 1929 the price indexes for the region as a whole were calculated by the authors from the available country data (i.e., on Argentina, Brazil, Colombia, Chile, Ecuador, El Salvador, Mexico, Peru and Venezuela) published in the 1976 ECLAC study. In this publication regional price indexes were calculated from 1930 onwards.

In the first place, this exceptionally pronounced and for the most part prolonged deterioration (i.e., until the end of World War II) of the region's terms of trade directly altered domestic relative prices between the goods possessing extraordinary comparative advantages and all other tradeables, and between those commodities and non-traded goods and services. In effect, the observed movement of the region's terms of trade directly implied a reduction of almost 48%, on average, in the domestic relative price of traditional exports. That these goods continued to be produced and exported at all suggests just how extraordinary their comparative advantage was. But it also had something to do with the indirect repercussions of the decline of the relative international prices of primary products on domestic relative prices.

Thus, just as a rise in the relative international price of a commodity (or an "autonomous" increase in its profitability) may spark off an export boom and trigger a series of domestic price and quantity adjustments, a major and sustained decline in the relative international price of a heretofore booming export leads, contrariwise, to a proportionate decrease in domestic income, and hence, to an excess supply of non-tradeable as well as tradeable goods and services, at prevailing domestic relative prices. As a result, the nominal price of non-traded goods and services declines and the balance of trade in other tradeables improves. The original drop in the relative domestic price of the erstwhile booming commodity is thus partially offset by this indirect real (i.e., spending) effect of the involution of the boom. On the other hand, the spending effect further increases the domestic relative price of other tradeables, so that both the direct and this indirect real repercussion of the deterioration of the terms of trade enhance the profitability of domestic production of these goods at the expense of profitability in the rest of the economy. Simultaneously, the resource movement effect further squeezes profitability in sectors producing traditional primary exports and non-traded goods and services.

The extent to which the spending effect offsets the direct depression of the domestic relative price of export commodities caused by the shift in relative international prices depends

on the relative factor intensities of the production functions of the various sectors. However, when international relative prices deteriorate, the domestic relative price of traditional primary exports normally must fall, since the nominal prices of other tradeables increase on account of the direct and spending effects.

In addition to the direct and indirect repercussions of the collapse of international commodity prices, the monetary effect of the ensuing radical deterioration of the commercial account balances of the Latin American economies also exercised a powerful indirect impact on domestic relative prices. Thus, like the spending effect, it increased the domestic relative price of tradeables and thereby also partially compensated the direct decline in the domestic relative price of traditional commodity exports, further increased the profitability of production of other tradeables, and additionally depressed the nominal prices of non-traded goods and services. Again, however, such monetary induced adjustments are inherently in the nature of transitory phenomena.

Furthermore, both the depressive spending and monetary effects were exacerbated by the violent reversal of resource transfers. Indeed, the incredible rise in the *ex-post* real international interest rate and the massive repatriation of foreign capital in the first half of the 1930s superimposed another major adjustment of domestic relative prices on top of, and analogous to, those induced through the commercial account. And while capital account shocks also presumably are in the nature of transitory shocks, this particular one endured until well into the post-World War II era.

Finally, the reduction of the region's export quantum brought about by drastic deflation and the massive quantitative trade restrictions applied in the developed countries also induced a counterpart adjustment of domestic relative prices.

For a number of Latin American countries the crisis broke out as early as 1928, when United States banks drastically curtailed their overseas lending in order to participate in the New York stock market boom. At this point, or shortly thereafter, most of the region's economies were no longer able to contend with the effects of

already depressed international commodity prices while simultaneously continuing to expand domestic absorption. Also, by this time protectionist sentiment in the developed countries had been translated into considerable tariff hikes as well as growing quantitative trade restrictions, while the rise in United States interest rates provoked by the stock exchange bubble had considerably augmented interest payments on the region's foreign debt. In late 1929 Argentina and Uruguay departed from the gold standard and a host of others followed suit in 1930 and 1931. By 1933, when the depths of the Great Depression had been reached, all of the Latin American countries had either left the gold standard and undergone major devaluations, or remained on a fixed exchange rate, but at a higher real effective level than otherwise would have obtained, since they maintained parity with a US dollar which was devalued by 41% between early 1933 and early 1934.²²

In the end, all of the Latin American governments thus abandoned the automatic gold standard adjustment process rather than suffer the full magnitude of the enormous loss of well-being that the 50% reduction of domestic price levels on account of the direct impact of the deterioration of the region's terms of trade alone would have entailed, although a few persevered until the public had virtually overpowered the palace guard.

It is of course theoretically possible to re-establish an equilibrium real exchange rate through the deflation of domestic price levels, but the greater the intensity and duration of shocks and/or the more rigid domestic prices, the greater will be the output losses if the nominal exchange rate remains fixed. On the other hand, if the exchange rate is allowed to adjust freely to external shocks like those that Latin America confronted in the Great Depression, or if it is promptly raised towards (and ideally to) the new equilibrium level, unnecessary losses of well-being can be limited if not completely avoided. Either way, domestic relative prices

²²The sequence of events is described concisely in B. Eichengreen and J. Sachs, *op.cit.*, 1985.

eventually will settle at the value consistent with macroeconomic equilibrium.²³

Thus, by comparing data on the evolution of international prices, exchange rates and domestic prices, we may gauge roughly the extent and the precise direction of the relative price changes induced in the Latin American economies by the Great Depression, and hence the scope for structural change.²⁴

²³However, there is a fundamental flaw in the automatic adjustment process—whether it is based on the gold standard or, in more recent times, the monetary approach to the balance of payments—that necessarily renders it more costly than an adjustment process based on a flexible nominal exchange rate, even in an economy entirely free of conventionally-defined price distortions. In effect, an automatic adjustment process inevitably generates greater unnecessary losses of well-being than does one fostered through a flexible nominal exchange rate, because even at the limit, the nominal interest rate cannot drop below zero. Therefore, as domestic price levels deflate, the real interest rate must rise to a level that is incompatible with internal balance. Proponents of the automatic adjustment could retort that if prices of goods and all other factors were instantaneously flexible, the ultimate downward inflexibility of the nominal interest rate would be of little import. But let's be honest: no matter how flexible all other prices may be, everything takes place over time.

²⁴Before proceeding to comment the data presented in table 4, several caveats are in order. First, while the evolution of relative international prices shows variations with respect to the base year (i.e., 1963) and thus roughly indicates orders of magnitude of the profitability of the domestic production of exports and imports relative to each other, the index of overall domestic prices was set equal to the international index (and hence the domestic price index, in line with the small country assumption) of exports for the 1925/1929 period (i.e., to 100). This procedure was adopted both to permit a consistent transformation of international prices into domestic prices and to reflect the fact that prior to the Great Depression the profitability of the production of other tradeables was perforce below that of non-traded goods and services. However, it undoubtedly overstates the profitability of the production of non-tradeables relative to that of other tradeables. Moreover, since profitability in the production of exports was as a rule considerably higher than in non-tradeables, this method prevents any conclusions as to whether relative profitability as between these two sectors switched over the course of the 1930s, although it does of course allow for the observation of changes in relative prices between them. The nominal exchange rate also was set equal to 100 in 1925/1929 for the transformation of international into domestic prices. Consequently, in the base period the ratio of domestic to international prices, as well as the real exchange rate, usually does not equal 100, but this is of no consequence. Note also that the international prices of imports were used as an indicator of international prices of other tradeables (and transformed into the corresponding domestic prices as per the dependent country assumption), and the domestic consumer price index is taken as the price of non-traded goods and services. While the former procedure is entirely satisfactory the second is not, since tradeables entered into domestic consumer price indexes; however, in this case no other option was available. Finally, in performing the transformation of international prices into domestic prices we have ignored the incidence of any domestic policy-induced price distortions, including multiple exchange rates (i.e., import exchange rates—which were the only ones consistently available—were used).

Let us initially focus on the Brazilian case, as the evolution of that country's terms of trade was broadly representative of trends at the regional level. Between 1928/1929 and 1935/1939, the average price of Brazil's exports fell by 73%. However, as a result of the direct and indirect effects of the multiple external shocks, the repercussions of which were manifested principally through a major rise in the exchange rate rather than a decline in domestic prices once the gold standard was abandoned, the decline in the average domestic price of Brazil's traditional exports was considerably less, i.e., 40% (see table 4). On the other hand, the average domestic prices of other tradeables increased 20% in spite of the 65% reduction in the average international prices of these goods, while the average domestic price of non-traded goods and services declined 3% over this period as a whole. As a result of the Great Depression induced shifts of domestic prices, the average domestic price of traditional exports dropped 50% *vis-à-vis* the average domestic price of other tradeables and about 40% *vis-à-vis* that of non-traded goods and services. Note, in particular, that while the average domestic price of traditional exports was 55% higher than that of other tradeables in 1928/1929, it was 23% lower than the average domestic price of other tradeables in 1935/1939.

The reversal of the ratio of domestic relative prices to those of traditional exports and other tradeables was of roughly similar magnitudes in Peru and Colombia. Whereas the average domestic price of traditional exports was some 52% higher than that of other tradeables in the former country in 1928/1929, it was 17% lower than that of other tradeables in 1935/1939. The corresponding figures for Colombia were +50% and -11%.

The decline in the unit value of Chile's exports was not much less than in the above-named countries, but owing to a much larger exchange rate hike the average domestic price of its exports actually climbed over 70% in the first half of the 1930s and remained 25% above the 1925/1929 level in 1935/1939. Due also to the fact that on the eve of the Great Depression its terms of trade were especially favourable, in 1935/1939 the average domestic price of other tradeables was still some 18% above the average domestic price of traditional exports in

Table 4

**LATIN AMERICA: FORMATION AND EVOLUTION OF RELATIVE DOMESTIC PRICES,
IN SELECTED COUNTRIES, 1925/1929-1935/1939**

(Indexes)^a

	Argentina			Brazil			Chile		
	1925/ 1929	1930/ 1934	1935/ 1939	1925/ 1929	1930/ 1934	1935/ 1939	1925/ 1929	1930/ 1934	1935/ 1939
Nominal international prices									
Traditional exports	100.0 ^b	46.3	40.4	100.0 ^b	42.9	26.7	100.0 ^b	67.5	36.8
Other tradeables	92.5 ^b	58.9	39.8	64.5 ^b	46.4	34.6	55.0 ^b	42.1	30.5
Nominal exchange rate	100.0	140.0	145.2	100.0	160.5	223.7	100.0	253.7	339.6
Nominal domestic prices									
Traditional exports	100.0	64.8	58.7	100.0	68.9	59.7	100.0	171.2	125.0
Other tradeables	92.5	82.5	57.8	64.5	74.5	77.4	55.0	106.8	103.5
Non-tradeables ^c	100.0	85.7	89.1	100.0	76.9	97.0	100.0	113.0	156.8
Relative domestic prices									
Traditional exports									
Other tradeables	100.0	78.5	101.6	155.0	92.5	77.1	181.8	160.3	120.8
Non-tradeables	100.0	75.6	65.9	100.0	89.6	61.5	100.0	62.5	79.7
Other tradeables									
Traditional exports	92.5	127.3	98.5	64.5	108.1	129.6	55.0	62.4	82.8
Non-tradeables	92.5	96.3	64.9	64.5	96.9	79.8	55.0	94.5	66.0
Non-tradeables									
Traditional exports	100.0	132.3	151.8	100.0	179.3	263.3	100.0	66.0	125.4
Other tradeables	108.1	103.9	154.2	155.0	103.2	125.3	181.8	105.8	151.5
Domestic versus international prices									
Domestic prices ^e									
International prices ^d	99.4	103.0	110.0	99.8	92.8	120.5	97.8	133.6	190.6
Real exchange rate	100.6	135.2	131.2	104.6	180.8	194.2	102.2	189.9	178.3

Table 4 (concluded)

	Colombia			Mexico			Peru		
	1925/ 1929	1930/ 1934	1935/ 1939	1925/ 1929	1930/ 1934	1935/ 1939	1925/ 1929	1930/ 1934	1935/ 1939
Nominal international prices									
Traditional exports	100.0 ^b	51.9	29.4	100.0 ^b	55.7	52.3	100.0 ^b	49.1	25.3
Other tradeables	66.5 ^b	43.4	33.0	101.1 ^b	83.0	59.2	65.7 ^b	42.6	30.6
Nominal exchange rate	100.0	115.7	177.7	100.0	145.5	196.5	100.0	155.6	168.9
Nominal domestic prices									
Traditional exports	100.0	60.0	52.2	100.0	81.0	102.8	100.0	65.2	42.7
Other tradeables	66.5	48.4	58.6	101.1	120.8	116.3	65.7	66.3	51.7
Non-tradeables ^c	100.0	65.9	89.1	100.0	91.0	116.4	100.0	82.5	87.5
Relative domestic prices									
Traditional exports									
Other tradeables	150.4	124.0	59.1	98.9	67.0	88.4	152.2	98.3	82.6
Non-tradeables	100.0	91.0	58.6	100.0	89.0	88.3	100.0	79.0	48.8
Other tradeables									
Traditional exports	66.5	80.7	112.3	101.1	149.1	113.1	65.7	101.7	121.1
Non-tradeables	66.5	73.4	65.8	101.1	132.7	99.9	65.7	80.3	59.1
Non-tradeables									
Traditional exports	100.0	109.8	170.7	100.0	112.3	113.2	100.0	126.5	204.9
Other tradeables	150.3	136.2	152.1	98.9	75.3	100.8	152.2	124.4	169.2
Domestic versus international prices									
Domestic prices ^c									
International prices ^d	100.0	78.5	110.7	94.4	103.8	136.5	105.1	104.8	114.3
Real exchange rate	100.0	147.4	160.5	105.9	132.4	135.9	95.2	148.5	147.8

Source: For international prices of traditional exports and other tradeables, which are those relevant for the exports and imports, respectively, of each country, see ECLAC, *América Latina: relación de precios del intercambio, op.cit.*, 1976, country tables; for exchange rates and domestic prices, see C. Díaz-Alejandro, "Latin America in Depression, 1929-1939", in *The theory and experience of economic development (Essays in honour of Sir W. Arthur Lewis)*, M. Gersowitz, et al. (eds.) (London: George Allen and Unwin, 1982), tables 20.4 and 20.5.

^a Average price of traditional exports (1963 price weights) in 1928/1929 = 100, and average nominal exchange rate in 1925/1929 = 100.

^b 1928/1929.

^c Domestic consumer price index.

^d United States consumer price index.

1935/1939, notwithstanding the 51% deterioration of its terms of trade. Nevertheless, the rise in the domestic price of other tradeables over this period was pronounced, i.e., more than 50%. On the other hand, Chile was the only country in which the price of non-traded goods and services relative to the average price of traditional exports declined in this period, owing once again to the exceptionally large devaluation of its currency between 1928/1929 and 1930/1934. In the latter period the relative price of non-traded goods and services in terms of exports was 34% less than in 1928/1929, but in the ensuing four-year period the price of non-tradeables relative to that of exports almost doubled, as the domestic price level shot up, the unit price of exports plunged by another one-third, and the rate of devaluation was slowed. Similarly, the domestic price of other tradeables in terms of non-tradeables rose sharply in the first part of the 1930s (i.e., by 72%) but then fell back about 30% in the last part of the decade.

The decline in the international price of Mexico's exports was appreciably less than that observed in the above cases. But since its terms of trade in 1928/1929 were approximately on a par with the base year (i.e., 1963), the domestic price of other tradeables relative to that of its exports rose about 12% in the 1930s. As in the other countries of the region, the domestic price of other tradeables relative to that of non-traded goods and services increased markedly in the first half of the 1930s, but subsequently declined as the international price of other tradeables continued to drop, the terms of trade partially recovered, and the real exchange rate stabilized.

The major exception to these trends occurred in Argentina. In effect, although the international prices of Argentina's exports naturally declined during this period, by the latter half of the 1930s its terms of trade had recovered strongly from the reversal suffered in the early years of that decade, thanks in large measure to the privileged access it obtained to the protected British market through the provisions of the 1934 Runciman Treaty. Consequently, it was the only country in which the domestic price of other tradeables relative to that of export products did not stand substantially above the 1928/1929 level at the end of the 1930s. And by the same token, the

adjustment of the exchange rate was notoriously less marked than in the rest of countries for which comparative data were obtained. Over the course of this period the major shift in domestic relative prices that took place as a result of nominal price changes was thus the rise in the price of non-tradeables relative to that of tradeables.

Clearly, the massive shifts in domestic relative prices provoked by the Great Depression provided an overwhelming stimulus to the reallocation of resources from the sector producing erstwhile booming commodities to the rest of the economy, regardless of domestic policy initiatives, although (as discussed below) on the whole economic policy in Latin America did reinforce structural change yet without introducing major distortions in domestic prices.

In effect, if we compare the changes in domestic relative prices the following pattern emerges. In Brazil the domestic price of other tradeables relative to that of traditional exports more than doubled between 1928/1929 and 1935/1939; in Peru it soared over 84%; in Colombia it climbed 69%; in Chile it rose more than 50%, and in Mexico it increased by 13%. The only exception was Argentina, where it declined some 6%.

Over the same period, the domestic price of non-traded goods and services relative to that of traditional exports shot up by 163% in Brazil; it more than doubled in Peru; jumped about 71% in Colombia; climbed 52% in Argentina; went up 25% in Chile, and increased by 13% in Mexico.

Moreover, in both Brazil and Chile the domestic price of other tradeables relative to that of non-traded goods and services likewise increased substantially over this period, despite the drastic decline in the international prices of other tradeables, owing to the especially large exchange rate hikes in those two countries. In Colombia and Mexico the relative domestic price of other tradeables in terms of non-traded goods and services scarcely changed from the pre-Great Depression years to the late 1930s, while in Peru it declined 10% and in Argentina it dropped almost 30%, owing, again, to the notably less severe external shocks experienced by this country and, hence, the proportionately smaller adjustment of its exchange rate (see table 4).

While the genesis of structural change spawned by the Great Depression in the Latin American economies —more intense in other tradeables in some and greater in non-tradeables in others— was in line with spontaneous mechanisms, domestic economy policy also promoted the reallocation of resources.

2. *The contribution of domestic policy*

In effect, the extent of the decline in the relative domestic price of traditional exports and of other tradeables was more pronounced than could be explained by the available price and exchange rate data alone. In particular, the use of multiple exchange régimes that discriminated against traditional exports, and of quantitative trade restrictions that discriminated against "non-essential" imports increased the movement of resources out of the traditional export sector and channeled then into the production of other tradeables. Precise comparative information on multiple exchange régimes and quantitative trade restrictions in the 1930s is not available, but the relevant data for the situation prevailing around 1950 may be suggestive of the incidence of these policies in that earlier period, although it should be borne in mind that in general, recourse to multiple exchange rates and quantitative restrictions on trade gradually intensified over this period in a number of countries and increased very sharply in others (e.g., in Argentina in the mid- and late 1940s).

a) *Trade policies*

With these caveats in mind, it may thus be noted that in Argentina the spread between the official exchange rate for non-essential imports and that for traditional exports around 1950 was almost 190%, while that between non-essential imports on the one hand and essential imports and non-traditional exports on the other was 92% (see table 5).²⁵ In Chile the corresponding

figure for the spread between non-essential imports and traditional exports was 174%, while that between the former category of imports and essential ones was around 39%. On the other hand, the official exchange rate was the same for non-traditional exports and non-essential imports, so that in this case equal incentives for the production of other tradeables, excluding capital and intermediate importables, were in force. Substantial spreads may also be observed in Costa Rica, Paraguay, Ecuador and Uruguay.

On the other hand, in countries like Brazil, Colombia, Peru, Venezuela and Nicaragua the scope of multiple exchange rates was rather limited. Thus, in Brazil the spreads were few and marginal, and in Colombia much the same pattern obtained, with the notable exception of the use of an exchange rate for non-traditional exports that was 23% higher than that for non-essential imports. In Venezuela there was a small spread between the rate for non-essential imports and the other, common rate, while in Peru there was a single rate for all current account items (see table 5). Finally, in Cuba, El Salvador, Guatemala, Haiti, Mexico and Panama one exchange rate was used for all transactions (see table 6).

We have no quantitative information on administrative trade restrictions, but it may be noted that around 1950 13 of the 18 countries of the region for which qualitative data are available employed import prohibitions and/or licenses, while five of the 12 countries for which such information was obtained required advance deposits for imports (see table 6).

Although quantitative trade restrictions had thus come to be used by the majority of the Latin American countries early in the post-World War II era (if not before), in contrast —and contrary to conventional belief— tariffs were not used to ease the adjustment to the Great Depression. Thus, while import tariffs were, on average, between 23% and 30% in the largest Latin American countries in the late 1920s, they were scarcely raised at all either during the 1930s or the 1940s. Indeed, between 1925/1927 and 1932/1937 the average import tariff dropped from 28% to 17% in Mexico and from 26% to about 24% in Argentina (see table 7). Over the course of the same period average tariffs were

²⁵In contrast, in 1934/1936 the spread between average import and export exchange rates in Argentina was about 12%, (C. Díaz-Alejandro, "Latin America in depression 1929-1939", *The Theory and Experience of Economic Development: Essays in Honour of Sir. W. Arthur Lewis, M. Gersovitz and others* (eds.). London: George Allen and Unwin, 1982, table 20.6).

Table 5

LATIN AMERICA: EXCHANGE RATE REGIMES IN SELECTED COUNTRIES, AROUND 1950

Country	Essential imports	Non-essential imports	Basic exports	Non-traditional exports	Capital account
Argentina ^a	7.5	14.4	5.0	7.5	14.4
Bolivia ^b	42.4	56.1	55.5	42.0	42.4
Brazil ^c	18.7	19.7	18.4	18.4	18.7
Colombia ^a	2.2	2.6	2.0	3.2	2.0
Costa Rica ^d	9.4	14.5	5.6	5.6	6.2
Chile ^a	31.1	43.1	19.4	43.0	43.1
Ecuador ^e	15.2	25.0	15.0	18.3	13.5
Nicaragua ^f	5.0	6.9	5.0	5.0	5.0
Paraguay ^g	3.1	8.1	4.9	6.0	8.1
Peru ^h	14.8	14.8	14.8	14.8	16.3
Uruguay ^a	1.9	2.5	1.5	2.4	3.1
Venezuela ⁱ	3.1	3.4	3.3	3.3	3.3

Source: International Monetary Fund, *Annual Report on Exchange Restrictions, 1950-1952*.

^aPesos per US dollar.

^bBolivianos per US dollar.

^cCruzeiros per US dollar.

^dColones per US dollar.

^eSucres per US dollar.

^fCórdobas per US dollar.

^gGuaraníes per US dollar.

^hSoles per US dollar.

ⁱBolívares per US dollar.

Table 6

LATIN AMERICA: SUMMARY OF QUANTITATIVE RESTRICTION ON EXTERNAL TRADE, AROUND 1950^a

Country	Multiple exchange rates	Exchange controls	Quantitative restrictions ^b	Prior deposits
Argentina	Yes	Yes	Yes	No
Bolivia	Yes	Yes	Yes	No
Brazil	Yes	Yes	Yes	No
Colombia	Yes	Yes	Yes	Yes
Costa Rica	Yes	Yes	Yes	Yes
Cuba	No	No	No	No
Chile	Yes	Yes	Yes	No
Ecuador	Yes	Yes	Yes	Yes
El Salvador	No	No	No	...
Guatemala	No	No	No	...
Haiti	No	No	No	...
Mexico	No	Yes	Yes	...
Nicaragua	Yes	Yes	Yes	Yes
Panama	No	No	No	...
Paraguay	Yes	Yes	Yes	Yes
Peru	No	Yes	Yes	Yes
Uruguay	Yes	Yes	Yes	No
Venezuela	Yes	Yes	Yes	No

Source: ECLAC, on the basis of official data; International Monetary Fund.

^aApproximately 1948-1950.

^bImport prohibitions and/or prior import licences.

increased slightly in Colombia, i.e., from 23% to 25%, while in Chile the general tariff was hiked from 25-30% to 35%. In Brazil, for which no earlier data were obtained, the average implicit tariff was under 26% in 1936.²⁶

Furthermore, in the 1945/1950 period the average tariff had dropped to 11% in Mexico, 12% in Argentina, 14% in Brazil and 17% in Colombia. In Chile, in contrast, the average tariff appears to have continued to rise. Thus, the average tariff on consumer goods was hiked from 45% in the 1932/1937 period to 62% in 1945/1950 (see table 7).

On the whole, then, it may tentatively be affirmed that although trade policy clearly was fostering the process of import substitution in Latin America by the time the Korean War broke out, its contribution can scarcely be compared to the catalytic role played by the massive domestic relative price changes triggered by the Great Depression in the 1930s. Moreover, the incidence of these discriminatory trade policies in Latin America must also be interpreted in the light of the extensive price distortions provoked in the international economy by the trade policies of the industrial countries in the 1930s and 1940s. It may be noted in this respect that tariff levels in Latin America were considerably lower than those imposed in many developed countries at that time.

On the other hand, the contrast between the relatively low incidence of trade policy-induced price distortions in most Latin American economies during this period and the progressive build-up of such distortions while the international economy experienced an unprecedented expansion in the post-war era goes a long way towards explaining the exceptional economic performance of the region during the 1929-1950 period and the incessant accumulation of macroeconomic disequilibria thereafter.

b) *Macroeconomic policies*

One of the principal reasons why Latin America outperformed the developed countries

in the 1930s in spite of the notoriously greater shocks to which it was subjected stemmed from a more timely recourse to policy-guided relative price changes as well as the relatively greater use (or tolerance) of price mechanisms to effect the necessary structural changes.

Thus, on balance, all of the Latin American countries for which data were obtained increased the competitiveness of their economies *vis-à-vis* the industrialized countries through major increases in their real exchange rates, especially in the early 1930s. This was particularly true in countries like Brazil and Chile, where the real exchange rate jumped 94% and 78%, respectively, between 1925/1929 and 1935/1939 (see table 4). In both Colombia and Uruguay the real exchange rate climbed about 60%, in this period;²⁷ in Peru it rose 53%, in Mexico it went up 40%, and in Argentina it increased 33%.²⁸

Although adjustments of relative domestic prices proportionate to the magnitude of the external shocks were inevitable—a point that may be verified by reference to the contrasts among the Latin American countries themselves—the timing of those adjustments, as well as their division between those effected through the real exchange rate and those realized by discriminatory trade policies, exerted a decisive influence on the extent of unnecessary welfare losses, i.e., on the decline of economic activity and the speed and scope of the recovery.

Thus, in general, the major Latin American countries abandoned the drawn out and highly costly deflation of domestic prices in line with a gold standard policy régime much sooner than did the developed countries. While this partly stemmed from the relative magnitude of the shocks, it also reflected conscious policy decisions, inasmuch as technically speaking all countries could have opted for deflation.

The more opportune and vigorous recovery of the Latin American economies was also promoted by the pursuit of mildly expansionary rather than sharply deflationary monetary policies: a contrast which in turn was related to

²⁶The only country for which we have some data on the dispersion of tariffs in the 1930s is Argentina, where tariffs on consumer goods ranged from 23% to 31%, on intermediate goods from 1% to 15%, and on capital goods around 18%.

²⁷The data for Uruguay are from C. Díaz-Alejandro, *op.cit.*, 1982, table 20.4.

²⁸In all cases the lion's share of the rise in the real exchange rate took place in the first part of the 1930s.

Table 7

LATIN AMERICA: EVOLUTION OF NOMINAL TARIFFS IN SELECTED COUNTRIES, 1925-1986

(Percentages)

Country	1925/1927	1932/1937	1945/1950	1960/1965	1967/1970	1972/1977	1978/1981	1982/1986
<i>Argentina</i>								
Average	26.0 ^a	23.8 ^b	12.2 ^c	148.8 ^d	36.0 ^e	93.7 ^f	34.4 ^g	0.0-38.0 ^h
Consumer goods	...	22.9-31.4 ^b	...	235.0 ^d	88.0 ^e	100.0 ^f	36.5 ^g	...
Intermediate goods	...	1.0-15.0 ^b	...	243.0 ^d	51.0 ^e	95.0 ^f	0.0-30.0 ^g	...
Capital goods	...	18.4 ^b	...	156.0 ^d	87.0 ^e	70.0 ^f	36.7 ^g	10.0 ^h
<i>Brazil</i>								
Average	...	25.6 ⁱ	14.4 ⁱ	85.0 ^j	37.0 ^j	55.1 ^k	99.0 ^k	45.0 ^l
Consumer goods	132.0 ^j	67.0 ^j	...	...	...
Intermediate goods	70.0 ^j	37.0 ^j	...	...	...
Capital goods	56.0 ^j	40.0 ^j	...	...	...
<i>Colombia</i>								
Average	23.0 ^r	25.0 ^r	17.0 ^r	48.0 ^r	13.0 ^r	36.0 ^s	28.0 ^s	...
Consumer goods	18.0	53.0	49.0 ^c	47.0	43.0	...
Intermediate goods	22.0	40.0	11.0 ^c	24.0	22.0	...
Capital goods	33.0 ^c	28.0	30.0	...
<i>Costa Rica</i>								
Average	25.8 ^v	16.8 ^v	...
Consumer goods	58.1 ^t	85.5 ^u	28.0	18.3	...
Intermediate goods	28.3 ^t	32.8 ^u	17.3	13.0	...
Capital goods	10.0 ^t	11.8 ^u	21.0	16.3	...
<i>Chile</i>								
Average	25.0-30.0 ^m	35.0 ⁿ	...	89.0 ^o	...	94.0-24.0 ^p	10.0 ^q	20.0 ^q
Consumer goods	...	45.0 ⁿ	62.0 ^c	204.0 ^o	...	...	10.0	20.0
Intermediate goods	3.0 ^c	53.0 ^o	...	...	10.0	20.0
Capital goods	30.0 ^c	92.0 ^o	...	...	10.0	20.0
<i>El Salvador</i>								
Average	47.6 ^w	...	...
Consumer goods	52.2 ^t	79.3 ^u	32.9 ^w	...	...
Intermediate goods	37.8 ^t	38.1 ^u	30.4 ^w	...	...
Capital goods	9.8 ^t	10.2 ^u	10.6 ^w	...	...
<i>Guatemala</i>								
Average	50.1 ^w	29.8 ^x	...
Consumer goods	50.4 ^t	79.8 ^u	37.0 ^w	39.0 ^x	...
Intermediate goods	24.4 ^t	28.6 ^u	26.3 ^w	23.1 ^x	...
Capital goods	06.0 ^t	10.3 ^u	10.3 ^w	23.3 ^x	...
<i>Honduras</i>								
Average	41.2 ^w	21.9	...
Consumer goods	50.0 ^t	91.9 ^u	30.3 ^w	...	...
Intermediate goods	31.6 ^t	35.7 ^u	38.9 ^w	...	...
Capital goods	2.9 ^t	9.9 ^u	5.7 ^w	...	...
<i>Mexico</i>								
Average	18.4 ^y	17.0 ^y	11.1 ^y	20.1 ^z	17.7 ^{aa}	28.0 ^{aa}	11.5 ^{aa}	26.5 ^{aa}
Consumer goods	63.9 ^z	...	...	...	...
Intermediate goods	33.5 ^z	...	...	...	...
Capital goods	10.6 ^z	...	...	...	...

Table 7 (concluded)

Country	1925/1927	1932/1937	1945/1950	1960/1965	1967/1970	1972/1977	1978/1981	1982/1986
<i>Nicaragua</i>								
Average	54.4 ^w	...	...
Consumer goods	59.6 ^f	92.2 ^u	42.4 ^w	...	...
Intermediate goods	33.0 ^f	56.1 ^u	27.7 ^w	...	...
Capital goods	14.0 ^f	12.6 ^u	10.8 ^w	...	...
<i>Uruguay</i>								
Average	139.0 ^{hb}	...	...
Consumer goods	133.0 ^{hb}	...	0.0-15.0 ^{cc}
Intermediate goods	70.0 ^{hb}	...	0.0-15.0 ^{cc}
Capital goods	0.0-15.0 ^{cc}

Source: World Bank; IBRD; United Nations; ECLAC, International Monetary Fund: *Exchange Restrictions Annual Report* (various years); CIEPLAN; Universidad Católica de Chile: *Cuadernos de Economía*, No. 54-55, Santiago, Chile, 1981; Leave of Nations: *Tariff level indices*, Geneva, 1927; Bela Balassa: *Development strategies in semi-industrial economies*, Baltimore, Md.: The Johns Hopkins University Press, 1982 and *The structure of protection in developing countries*, 1971; Centro de Estudios Monetarios Latinoamericanos, 1972; Carlos Díaz-Alejandro: *Foreign Trade Regimes and Economic Development*, New York: Columbia University Press, 1976; Manuel Martínez del Campo: *Industrialización en México: hacia un análisis crítico*, Mexico City, El Colegio de México, 1985.

^a Tariff level (1925).

^b 1927. Consumer goods are cotton and wool manufactures; intermediate goods are agricultural inputs, raw materials, oils, etc.

^c *Ad valorem* tariff. Specific duties not included.

^d 1962 (maximum value).

^e 1969 (nominal protection).

^f 1976. Manufactured goods.

^g 1979. Nominal protection.

^h 1986. Range of tariff rates.

ⁱ 1936 and 1951 respectively (average incidence of customs duties: customs duties divided by the value of imports).

^j 1966 and 1967 respectively (nominal protection).

^k 1977 and 1980 respectively (manufactured goods).

^l 1986 (import duties).

^m Before 1928 (basic tariff).

ⁿ 1932. Consumer goods are luxury goods.

^o 1961 (nominal protection).

^p 94.0 corresponds to 1973 and 24.0 corresponds to 1977.

^q 1979-1982 and 1986 respectively.

^r 1927, 1936, 1951 and 1959 respectively. Average of nominal tariff rates for all imports.

^s 1975 and 1979 respectively.

^t 1959 (national tariffs before the Common Market). Average nominal tariff for selected groups of manufactured products.

^u 1967 (Common Market tariffs). Average nominal tariffs for selected groups of manufactured products. Figures used for Nicaragua apply to 1960 and 1968 respectively.

^v 1973 and 1977 respectively (nominal tariff rate). The nominal tariff rate is the nominal tariff divided by imports from outside the CACM.

^w 1972. *Ad valorem* equivalents of the common external tariff. Intermediate goods are food products.

^x 1981. Nominal tariff rates.

^y 1929, 1937 and 1948, respectively (coefficient of customs duties). The coefficient of customs duties is the quotient, at current values, of customs duties and the total imports.

^z 1960. Nominal tariff protection.

^{aa} 1970, 1975, 1979 and 1982, respectively. Tariff level (weighted average).

^{bb} 1976 (average tariff).

^{cc} 1985-1986 (range).

the more timely abandonment of the so-called automatic adjustment process and permitted the maintenance of real domestic interest rates markedly lower than those of countries, like the United States, that persisted longer in the deflationary route. While the United States money supply contracted 16% between 1925/1929 and 1930/1934, Brazil's money

supply rose 18%, Mexico's was augmented by 13%, Chile's expanded 11% and Uruguay's increased about 6%. By way of contrast, close to one-half of Cuba's money supply evaporated over this period.²⁹

²⁹Carlos Díaz-Alejandro, *op.cit.*, 1982, table 20.7.

In addition, the scope for recovery in Latin America was enhanced considerably by the widespread moratorium on external debt payments in the early 1930s. Indeed, only Argentina and the Dominican Republic continued to effect foreign debt service payments throughout this period. Finally, and also in sharp contrast to the 1980s, the Latin American countries did not have to contend with capital flight.³⁰

3. Overview of recovery and growth

In Latin America, as in the world at large, the trough of the Depression was reached in 1932. In only two years more, however, regional output had not only recovered but surpassed the 1929 level, and by 1937 it was fully 20% above the pre-Depression peak. By way of contrast, the index of the gross domestic product of the industrial countries taken together did not recover its 1929 level until 1936, and in 1937 it was only 7% above the pre-crisis high. Latin America's performance is all the more remarkable in view of the fact that economic activity in its principal trading partner still remained below the 1929 level as late as 1937. Indeed, in the United States the recovery was not completed until 1939, when the process of rearmament was greatly accelerated.³¹

In addition, regional output in Asia in 1937, although 10% higher than its 1929 level, was only 6% above its 1932 level, whereas the Latin American gross domestic product expanded over 39% between 1932 and 1937. Moreover, when Latin America surpassed its pre-Great Depression gross domestic product in 1934, it did so with a quantum of imports that was scarcely more than one-half its 1929 level, while in that same year, although Asia's output was also about the same as it had been in 1929, its import quantum was only 13% lower than in that year.³²

Between 1939 and 1945 the Latin American economies continued to achieve growth rates above those observed in much of the rest of the world, notwithstanding the dislocations caused by World War II and the sharp downturn in the United States economy between 1944 and 1948. This sustained expansion was in fact promoted by the marked growth of the United States economy between 1939 and 1944 and, from 1946 onwards, by a strong recovery of the region's terms of trade. Thus, between 1939 and 1945 the regional gross domestic product expanded 3.4% per annum and between 1945 and 1950 it increased 5.3% per year (see table 1). These figures compare with a growth rate of about 2.5% between 1929 and 1939.

For the 1929-1950 period as a whole, the annual growth rate of regional output was 4.4% (table 8), compared with a growth rate of 2.7% per annum for the United States economy over this period.³³

Finally, it may be noted that while Latin America's share of world exports declined from 8.9% in 1929 to 7.9% in 1938 (which was the same figure recorded in 1913), by 1947 it had climbed to 12.2%, before dropping back to 11.4% in 1950. On the other hand, its share of world imports dropped from 6.8% in 1929 to 6.3% in 1938, rose to a peak of 11.3% in 1947, but dropped sharply to 8.6% in 1950,³⁴ in spite of a recovery of more than 20% in its terms of trade between 1947 and 1950. Indeed, in 1950 the region's terms of trade stood at a level which was the highest since 1929 (i.e., 93.6 versus 100) and which has not been witnessed again for the region as a whole (see table 2). Evidently, then, by the late 1940s the policies which were to exert a decisive influence on Latin America's post-war economic performance until 1973 and beyond were already taking shape.

We will now consider briefly some of the basic ideas of a Latin America whose economics were directly forged by the experience of the Great Depression, but which exercised their greatest influence in the 1950s and 1960s.

³⁰For a comparative historical analysis of these two issues, see Felix, *op.cit.*, 1987.

³¹B. Eichengreen and R. Portes, *op.cit.*, 1987, tables 3 and 4, and A. Maddison, *op.cit.*, 1982, table A7.

³²Eichengreen and Portes, *op.cit.*, table 4.

³³Maddison, *op.cit.*, 1982, table A7.

³⁴Pan-American Union, *The Foreign Trade of Latin America since 1913*. Washington, D.C., 1952, p. 3.

Table 8
 LATIN AMERICA: EVOLUTION OF GROSS DOMESTIC PRODUCT
 IN SELECTED COUNTRIES, 1929-1950^a

(Annual average growth rates)^b

Country	Total	Per capita	Tradeables			Non-tradeables				
			Total	Agriculture	Mining	Manufacturing	Total	Construction	Basic services	Non-basic services
Latin America	4.4		3.9	2.1	5.4	5.8	5.2	6.8	6.6	4.8
Argentina	2.3		2.1	0.9	5.6	3.2	2.7	2.5	3.4	2.6
Brazil	3.6		4.0	2.1	3.2	6.4	3.3	...	...	...
Colombia	3.6		3.3	2.3	2.8	8.0	...	3.0	...	...
Costa Rica ^c	8.0		10.1	10.6	...	8.7	5.4	1.8	5.2	5.9
Chile ^d	3.4		2.7	1.9	-1.0	6.1	3.7	3.8	2.7	3.8
Ecuador ^e	6.5		7.3	8.1	1.7	6.0	5.6	7.8	11.3	4.8
Honduras	1.4		0.9	0.3	3.0	4.0	2.9	4.0	3.1	2.6
Mexico	2.4		2.3	2.2	...	2.3	2.3	5.9	3.6	2.1
Paraguay ^f	2.4		2.3	2.2	...	2.3	2.3	5.9	3.6	2.1
Peru ^g	4.5		4.1	3.9	2.1	5.7	4.9	8.6	^h	4.5
Uruguay ⁱ	2.8		2.7	2.2	...	3.0	2.9	8.1	2.5	2.6
Venezuela ^j	7.1		5.9	-0.3	9.4	7.5	6.9	12.8	...	...

Source: ECLAC, on the basis of official data.

^aUnless otherwise indicated.

^b1970 prices.

^c1946-1950.

^d1940-1950.

^e1939-1950.

^f1938-1950.

^g1945-1950.

^hIncluded in other services.

ⁱ1935-1950.

^j1936-1950.

III

The Prebisch thesis

Raúl Prebisch set out to achieve two goals when he published his pathbreaking, but controversial, 1949 study of the economic development of Latin America.³⁵ These goals probably did not include the founding of a Latin American school of economic thought, although of course he did achieve this; rather, his purpose was to explain the causes underlying Latin America's economic backwardness *vis-à-vis* the industrialized coun-

tries and, above all, to persuade his fellow Latin Americans of the rationale for the intervention of the free play of market forces and lay out a policy agenda for the transformation of the economies of the region. Although we would like to, we can scarcely do justice to his contribution here. Instead, we merely propose to analyse briefly the proposition most closely identified with Prebisch—and the one for which he was most attacked—, both in order to suggest the need for a reappraisal of his basic thesis, and to introduce the ideas that were to have such a remarkable influence on economic policy both in

³⁵Raúl Prebisch, *The Economic Development of Latin America and Its Principal Problems* (E/CN.12/89/Rev.1). United Nations publication, Sales No.: 50.II.G.2.

Latin America and in other developing countries in the post-war era.³⁶

Over the course of the years Prebisch invoked a variety of arguments to explain his much-criticized 1949 finding that a secular deterioration of the terms of trade of the Latin American economies was observable from the mid-1860s to the mid-1930s.³⁷ However, the explanation he originally developed in his 1949 study is not only the one that has best withstood the test of time, but subsequently became enshrined as the central proposition on which the rent-seeking literature has been built. Paradoxically, however, the sharp controversy over whether the terms of trade of primary producers ever did, or continue to, exhibit a secular deterioration persists to this very day.³⁸

Briefly, Prebisch's original explanation of his finding of an apparent secular deterioration of the terms of trade of the Latin American economies turned on the argument that in the centre of the world economy (to use the nomenclature he coined to refer to the industrially most advanced countries), labour and producer coalitions gradually push the domestic prices of products produced in highly concentrated industries, and hence the international prices of these products (as per a realistic big country assumption), above the market clearing levels over the course of successive economic cycles, mainly by successfully resisting the price and wage reductions warranted to maintain in the manufacturing sector (although not necessarily

in the economy as a whole) full employment during cyclical downturns, but also perhaps as a result of obtaining price increases in excess of competitive ones during cyclical upturns.³⁹

In the periphery of the world economy (to use the term he introduced for the underdeveloped countries), in contrast, the prices of primary products (and of factors) fall *pari passu* with cyclical downturns in the centre, while they increase in consonance with the rise in demand for these products during cyclical upturns in the centre.

The maintenance of the international prices of primary products at market clearing levels over the course of successive economic cycles reflects, according to Prebisch, the historical dearth of effective producer and labour coalitions in the production of primary products at the world level, which in turn stems fundamentally from the worldwide abundance of most natural resources and, in recent years, from the gradual emergence of a structural labour surplus in the periphery. While abundant natural resource endowments in the world economy as a whole preclude the long-run maintenance of significant degrees of concentration in the production of most primary products in the international economy at large (as per a realistic small country assumption), and hence likewise preclude the establishment of supracompetitive international prices for these products in the long run, the structural labour surplus undermines the maintenance of supercompetitive wages in the production of primary products.⁴⁰

Thus, according as the international prices of manufactured goods produced in concentrated industries gradually rise above competitive

³⁶In his original analysis of the economic development of Latin America and other studies written by them in the early 1950s, Prebisch made a number of pioneering, but generally overlooked, contributions to what much later became known as open economy macroeconomics. Economists in the United States unwittingly rediscovered, although greatly extended, his early analyses in this field when they finally became obliged to drop the fiction that the United States continued to be a closed economy. As is discussed below, he also pioneered in his 1949 study what later became the central tenet of the rent-seeking literature.

³⁷A year after Prebisch, H.W. Singer also published a similar finding in this study "The distribution of gains between investing and borrowing countries", *American Economic Review*, vol. 40, No. 2, May 1950.

³⁸See, for example, the recent debate between H.W. Singer and B. Balassa over this issue: H.W. Singer, "The terms of trade controversy and the evolution of soft financing: early years in the U.N.", pp. 275-303, and B. Balassa, "Comment", in *Pioneers in Development*, G.M. Meier and D. Seers (eds.) (Oxford: Oxford University Press, 1984), pp. 304-311. (A World Bank publication.)

³⁹For a detailed historical analysis of the spread and distortionary price effects of macroeconomic coalitions in the developed countries, see M. Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation and Social Rigidities*. New Haven, Connecticut, Yale University Press, 1982.

⁴⁰Nevertheless, labour coalitions could push wages above the social opportunity cost of labour within individual countries according as property rights to natural resources are concentrated at the national level, as was discussed in a previous section. The output prices of the product in question would still be determined competitively in the international market, however. In effect, as the recent evolution of the international price of petroleum suggests, the setting of international prices above competitive levels through producer collusion, even for a commodity for which world demand is highly inelastic, would appear to be unsustainable in the long run.

levels over successive economic cycles, while the international prices of commodities remain at competitive levels, the terms of trade of peripheral countries will deteriorate steadily, as long as peripheral countries continue to specialize completely in the production of tradeables in which they possess extraordinary comparative advantage.⁴¹ Prebisch's analysis simultaneously provides an explanation, as he repeatedly noted in his published work and public pronouncements, for the increasing protection of primary producers in centre countries. It is a well-documented fact that subsidies for producers of commodities in the industrialized countries have increased more or less progressively over time.⁴² This trend has at the same time exerted an additional and increasingly powerful depressive effect on the international prices of a growing number of commodities simultaneously produced in both the centre and periphery, as declining international prices of these primary products lead to growing subsidization of primary producers in the industrialized countries, which in turn generates excess supplies of these products, further declines of their international prices and additional subsidies.

If the terms of trade for primary products have not in fact generally declined over the years, one might be hard pressed to explain why the extent and scope of protection of primary producers in industrialized countries has expanded so notoriously over the same period. Yet there is no doubt that farm lobbies have gradually become highly organized and active in

most developed countries in spite of considerable (but generally declining degrees of) producer dispersion; perhaps this is how they have managed to obtain supracompetitive domestic prices (i.e., *vis-à-vis* international prices) for their products, even though the secular international terms of trade of their produce have not deteriorated.⁴³ Perhaps what has happened is that during successive cyclical downturns these lobbies manage to obtain compensatory subsidies, which they are able to retain at least partially during successive cyclical upturns. But if this were the case, the excess supplies thus generated, in conjunction with the attendant barriers to imports of these products from competitors in the periphery, would necessarily lead to a gradual secular decline of the international prices of these primary products.

We have thus come full circle to Prebisch's argument. In effect, even if a secular decline in the terms of trade of primary products did not trigger the progressive expansion of the incidence and scope of protection of primary producers in the industrialized countries, the progressive growth of these subsidies as a result of the lobbying activities of farm coalitions would engender an ongoing deterioration in the international prices of these commodities *vis-à-vis* the competitive levels that would obtain in the absence of protection. In this case, Prebisch's seminal analysis of the impact of producer coalitions in the manufacturing sectors in the centre is equally applicable to the repercussions of farm coalitions in the centre, with the difference that the former push both the domestic and international prices of manufactured products above competitive levels, while the latter inflate the domestic prices of commodities in the centre above the competitive international prices of those same goods but depress their international prices below the competitive levels. This evidently is why Prebisch refrained from lumping together

⁴¹Contrary to the mistaken assertions of some of his critics, Prebisch did not adduce from this underlying argument, nor from the data that seemed to show a secular deterioration in the terms of trade of Latin American countries from the mid-1860s to the mid-1930s, that the terms of trade of peripheral countries would permanently deteriorate over time. One countervailing tendency of course stemmed from competition among industrialized countries. The other issued from his normative analysis. In effect, he urged the periphery to industrialize precisely to check the secular deterioration of their terms of trade.

⁴²See, for example, A.M. Baliscan and J.A. Roumasset, "Public choice of economic policy: the growth of agriculture protection", *Review of World Economics*, 1987, pp. 232-249, and B. Heitger, "Import protection and export performance. Their impact on economic growth", *Review of World Economics*, 1987, pp. 249-261.

⁴³Note that the rise of effective national coalitions of farm producers does not invalidate our assertion that the abundance and dispersion of producers on a world scale prevents the maintenance of, if not attempts to form, effective international coalitions of commodity producers.

primary producers in the centre with primary producers in the periphery.⁴⁴

Following Prebisch's original analysis, we have thus traced the genesis of international price distortions and suggested how they may account directly for a considerable part — perhaps the lion's share — of the domestic output price distortions prevailing in Latin America from the 1930s to the mid-1950s, when domestic trade and macroeconomic policies considerably augmented the incidence of output price distortions in the region's economies. Prebisch's analysis again becomes especially relevant in the 1980s, as will be discussed on another occasion.

In contrast to domestic policy-induced output price distortions (the effects of which are essentially limited to internal income transfers if the repercussions of rent-seeking activities are ignored), those provoked by international price distortions like the ones traced above directly inflict a proportional income loss on the periphery. Moreover, this income loss may generate spillover effects on output, since such non-market clearing prices would prevent the maintenance of full employment, unless nominal prices of non-traded goods and services were sufficiently flexible in a downward direction. Alternatively, inflation may result, if adjustment has to be pursued by raising the nominal exchange rate to contend with the prevalence of coalitions. By way of contrast, these international price distortions likewise entail internal income transfers in the centre but translate into a proportional income gain (at the expense of the periphery), which explains why non-market clearing prices may not generate significant unemployment there, although they may occasion inflation. Once the dynamic ramifications of price distortion emerge, however, the output and employment responsiveness of the central economy will gradually be curtailed. Endogenous policy-

induced distortions would of course further weaken economic performance in the periphery.

Prebisch's 1949 study of the economic development of Latin America thus presents a pioneering analysis of the implications of the interaction of a fixed-priced sector with a flex-priced sector, in a unified world economy. Moreover (and in contrast to Keynes, for example), his analysis is anchored firmly in a microeconomic explanation of the sources of output and factor market distortions.

The similarities between Prebisch's 1949 paradigm and Olson's celebrated theory of the rise and decline of nations published 33 years later is striking.⁴⁵ One main difference stems from the fact that whereas Prebisch focused on the interaction of a downwardly-inflexible-price centre with a flex-price periphery, Olson cast his analysis in terms of fixed and flex-price sectors within individual economies. And although Olson developed a much more rigorous and comprehensive treatment of the microeconomic foundations of macroeconomic coalitions, the decidedly open-economy macroeconomic flavour of Prebisch's analysis was likewise way ahead of its time.

But was Prebisch right? If one were to judge his proposition on the basis of the rationale for the rewards bestowed by the Nobel Prize Committee for creative economic thought, the answer would be yes, since in 1985 J. Buchanan won the Nobel Prize in economics for his seminal contributions to the public choice branch of the rent-seeking literature — contributions which, like many others made to the rent-seeking literature, do not look so pioneering once one reads Prebisch.⁴⁶

⁴⁵M. Olson, *op.cit.*, 1982.

⁴⁶Consider, for example, the following: "Our assertion that markets in excess-supply disequilibrium imply unemployment of resources requires elaboration. In general equilibrium analysis, the normal assumption is that the excluded group will leave the activity and undertake other activities; barriers to entry misallocate resources, but they do not create unemployment. In our coalitional equilibrium, individuals remain involuntarily unemployed, in that they would be willing to accept a job at the same wage that some others with the same endowment of human capital as they have are currently receiving, and even at the marginal revenue product they would have in a coalition-free economy, but sometimes they cannot obtain such a job however much they may search. As Olson (1982) explains, countries in which only a small segment of the economy has fallen under the thrall of special-interest groups will normally not have any significant unemployment, because the much larger

⁴⁴Of course, once a former peripheral country rises to the ranks of the industrialized countries, one would eventually expect to observe subsidization of primary producers in that country as well. Japan, and recently Korea, of course come to mind here. See, for example, M.V. Martin and J.A. McDonald, "Food grain policy in the Republic of Korea: the economic cost of self-sufficiency", *Economic Development and Cultural Change*, vol. 34, No. 2, January 1986, pp. 315-331.

On the other hand, the tally of pro and contra articles on the Prebisch thesis is heavily weighted against his empirical finding of a secular deterioration in the terms of trade of Latin America from the 1860s to the 1930s.⁴⁷

Rather than get bogged down in that debate, let us consider what the evolution of Latin America's terms of trade between the Great Depression and the present crisis looks like. Between 1928 and 1987 the trend rate of change of the price index of Latin America's merchandise exports was -0.3% per annum, while the trend rate of change of the unit value of its merchandise imports was +0.25% per annum. Its gross barter terms of trade therefore deteriorated at the rate of 0.55% per year over the course of this period (see table 2).

Are six decades long enough to speak of a secular deterioration of the terms of trade of the Latin American economies? If not, how does one explain the fact that beginning in the early 1980s authorities like the International Monetary Fund promoted massive adjustments in developing countries partly on the basis of the assertion that

the deterioration of the terms of trade they had experienced since the mid-1970s was in the nature of a permanent shock?⁴⁸

Returning to the long run data on Latin America's terms of trade, it should also be noted that the observed deterioration would have been even greater had the region not followed the normative proposition Prebisch derived from his positive analysis, i.e., the promotion of industrialization through the intervention of the free play of market forces. This observation brings us to our final and most important comment on the Prebisch thesis.

In effect, while we consider that Prebisch was on the mark in his positive analysis, the appeal of his approach, combined with his almost exclusive concern with one periphery rather than with the small country aspect of the problem, led to multiple and pronounced policy excesses in Latin America in the post-war years. However, if justice is to be done, it should be noted that he himself was one of the earliest and harshest critics of policies that, ironically, were based (however tenuously) on his analysis.

flex-price sector will absorb the unemployed with no great reduction in the wages and prices in that sector. If large parts of a country's economy are, by contrast, under the control of distributional coalitions, the exclusion in the controlled sectors will have kept an important part of the factor supply in the whole economy from being employed in the sectors in which they would otherwise have been employed. The shift of resources to the flex-price sector will then be so great that large variations in the returns to homogeneous factors will emerge. So many people will be crowded into the selling apples on the street corners sector that employment in this sector can in depressions come to be regarded as synonymous with involuntary unemployment. At an extreme, the flex-price wage can be driven below the reservation wages of even the relatively industrious, or even to zero.

"The more extensive the special-interest groups and the non-market-clearing prices that lobbying and cartelization bring about, the more extensive are the disparities in the rates of return for homogeneous resources. The greater these disparities, the more it pays to invest in searching and queuing for positions in the distributional coalitions. The extra search in such a case is not, like the search in a purely competitive economy, a socially efficient investment in information; it is a search for rents that would

otherwise accrue to others. The extra time spent searching and queuing is a type of social waste or involuntary unemployment arising from the distributional coalitions that created the disparities in rates of return." (D.C. Colander and M. Olson, "Coalitions and macroeconomics", *Neoclassical Political Economy: The Analysis of Rent-Seeking and DUP Activities*, David C. Colander (comp.), Cambridge, Mass.: Ballinger Publishing Company, 1984, pp. 120-121.)

⁴⁷Two of the main objections are that Prebisch indirectly calculated Latin America's terms of trade on the basis of those of the United Kingdom (i.e., as the reciprocal of Great Britain's terms of trade), and that he failed to take into account the effect of the decline of international transportation costs over the course of this period.

⁴⁸See, for example, "A Conversation with Mr. de Larosière", *Finance and Development*, vol. 19, No. 2 (June 1982), pp. 4-7 and M. Khan and M. Knight, "Determinants of current account balance of non-oil developing countries in the 1970s: an empirical analysis", *IMF Staff Papers*, vol. 30, No. 2 (December 1983), pp. 819-842.

Recent ECLAC publications

Estudio Económico de América Latina y el Caribe, 1987
(LC/G.1541-P), Santiago, Chile: November 1988
(692 pp.).

This publication is the definitive complete version of the *Economic Survey* for 1987, which appeared in individual fascicles in the course of 1988. It is divided in two parts: the first deals with the economic trends of the region as a whole and the second with the trends of the individual countries.

The first part is primarily an overview of the main trends in the regional economy. A more detailed analysis is then given of trends in the product, employment and unemployment, prices and wages, and the external sector. This part ends with an examination of trends in the external debt and its renegotiation.

The second part contains a detailed analysis of the economic evolution of 20 countries of the region in 1987.

Gestión para el desarrollo de cuencas de alta montaña en la zona andina (LC/G.1533-P), Santiago, Chile: September 1988.

This document is made up of nine studies which analyse the policies and management methods applied for the development of high-mountain river basins in the following Andean countries: Bolivia, Colombia, Ecuador, Peru and Venezuela.

Together they make up the first serious and exact effort to classify and define the various strategies used by the governments of these five countries to improve the standards of living of high-mountain inhabitants and to conserve the natural resources which support them. The main reference unit for the analysis of the application of these strategies was the corresponding river basin, although other spaces have also been considered such as microregions and politico-administrative divisions.

This document seeks to provide the bases for the creation of a set of theories on management processes for the development of high-mountain river basins and outlines the scope of some particular concepts, including development, regulation, management and protection of river basins, as well as the way these tie in with forms of integrated rural development and regional and microregional development.

The summary of case studies in the last chapter provides concrete information on types of management and on the present situation and development potential of high areas. It also includes references to programmes and projects which are being carried out in the river basins and high areas of the five countries studied.

It is hoped that this document will be useful to those involved in the design of strategies for improving the standard of living of the more than 50 million high-mountain dwellers of Latin America and the Caribbean, as well as in the conservation of their supporting natural resources.

La evolución económica del Japón y su impacto en América Latina ("Estudios e Informes de la CEPAL" series, No. 70, October 1988).

The dynamism of the Japanese economy compels attention both because of the originality of its internal logic and because of its external repercussions.

The purpose of this study is to analyse the most recent processes in the evolution of the Japanese economy and to examine their reciprocal relationships; to determine the degree to which these processes are specifically Japanese and the extent to which they are in harmony with general trends; and to examine their future possible impact on the Latin American economies.

The first chapter examines the adjustments made in the Japanese production and consumption structure after the 1974-1975 crisis; it traces the resulting modifications made in the external sector; it briefly reviews changes to the social structure caused by the economic restructuring; it evaluates the prospects of the structural adjustment to the economy; and, finally, it defines the stimuli generated by this adjustment and transmitted abroad.

The third chapter examines the implications of the Japanese structural changes for the Latin American economies both in the medium and the long term.

Finally, in the conclusions of the study, a summing-up is given and an evaluation is made of the possible place of Japan in the multilateral negotiations on trade in goods and services.

The evolution of the external debt problem in Latin America and the Caribbean ("Estudios e Informes de la CEPAL" series, No. 72, September 1988).

This study analyses and evaluates the international management of the region's external debt problem since 1982 and proposes some solutions.

The first chapter analyses two subperiods: the first, from 1982 to 1984, in which there was organized international management, and the second, from 1985 to 1987, when international co-operation on the matter broke down and gave way to a market menu approach.

In essence, private markets, when left to their own resources, overcome crises very slowly. Consequently, the market menu approach only serves to meet tangential aspects of the problem. It clearly does not attack the macro-economic core of the problem: how to sustainably and predictably finance the economic reforms and new investments needed by Latin America and the Caribbean in order to start growing now and recover their capacity to service their external debts. Only when this capacity has been recovered will the traditional private investors again begin to place appreciable amounts of capital in countries with

debt problems. The presentation of the menu is undoubtedly a poor substitute for a coherent multilateral initiative capable of liquidating the outstanding debt, which is contributing to the vicious circle of stagnation in the region.

The third chapter suggests options for reducing the burden of the transfer of resources abroad. The optimum solution would be a global multilateral initiative. As this seems to be difficult to bring about, however, a sub-optimum solution is considered: a list of debtor options. These options include a total moratorium on medium-term debt, official limitations on payments, the conversion of the debt to bonds, the issue of bonds in payment of interest, general capitalization, payment in kind, and co-ordination with other debtors.

Certainly, many of the options in the debtors' list run the risk of limiting even more the usual channels for integration with the world economy. Nevertheless, the current serious shortage of financing and the deterioration of world economic prospects are progressively reducing the opportunity cost of resorting to this list. If it is used wisely, and as part of a political and economic programme which takes into account the harshness and restrictions of the external environment as an important policy variable, this list could be compatible with price stabilization and higher sustained growth rates. The great question is to know whether this growth necessarily implies some considerable sacrifices in efficiency, as happened in Latin America in the period between the world wars. Unfortunately, this could indeed be the cost which must be paid in order to circumvent the depressive effects of the international debt management strategy. It is a sub-optimal strategy for all parties.

La distribución del ingreso en Colombia: antecedentes estadísticos y características socioeconómicas de los receptores (LC/G.1430-P), "Cuadernos Estadísticos de la CEPAL" series, Santiago, Chile: June 1988.

This study collects together the results of a study on income distribution in Colombia, and is made up of two parts. In the first, a set of background statistics on income distribution is examined, and in the second part the socioeconomic characteristics of the recipients of the income are described.

In recent years techniques for sample surveys have progressed considerably, and thanks to this household surveys have become one of the most important sources of information on the origin, composition and distribution of income. Moreover, given that these surveys cover various

characteristics of the households and their members, they also offer the possibility of creating data bases which can be used for carrying out many different types of studies.

Colombia is one of the Latin American and Caribbean countries which has made most progress in the field of household surveys, particularly through the work carried out by the National Statistics Administration Department (DANE). Therefore, it is not surprising that most of the statistical background in the study comes precisely from this information source.

It is necessary to point out, however, that household surveys are still somewhat restricted as instruments for measuring income. For example, it is difficult to precisely identify the income of entrepreneurs or self-employed workers, or some types of income such as capital returns or income in kind; moreover, from a statistical point of view, large sectors of the population who receive their income from agriculture or rural activities are relatively excluded. On the other hand, thanks to the large quantity of personal and household information regularly collected by these surveys, rich analytical studies can be carried out.

The first part of this study contains an exhaustive compilation of available estimates on income distribution in Colombia for selected years between 1951 and 1982. It collects together both estimates made by official organizations, whether or not they are based on sample surveys, and those based on the main studies carried out by independent investigators. It also gives some information about the methodologies employed in the surveys, in order to inform the reader of the characteristics and possible limitations of the various data bases considered. In spite of the breadth of this compilation, however, it is nevertheless of an eminently descriptive nature and scope.

In the second part, in contrast, the distribution of income is related to other socioeconomic variables to provide researchers with more specialized studies on the interrelationships which exist between the distributive process and specific characteristics of households and individual income recipients. For this purpose information has been used from three stages of the permanent household survey programme carried out by DANE for the years 1971, 1979 and 1982. These include the seven main cities of the country: Barranquilla, Bogotá, Bucaramanga, Cali, Manizales, Medellín and Pasto. The data has been tabulated in a different and more detailed manner than that usually used by DANE in publishing the results of its surveys.



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