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THE IMPORTANCE OF STUDYING THE FINANCING ASPECTS OF PRIORITY INDUSTRIAL DEVELOPMENT IN THE DEVELOPING COUNTRIES*

by

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During both the sectoral consultations and their preparatory meetings, the cost of industrial development in the developing countries was considered.

In the iron and steel sector, the implementation of the Lima Plan of Action for the year 2000 would involve the installation in the developing countries of an additional production capacity of 400 million tons of iron and steel products, which "would require an estimated investment of about $400 billion at 1976 costs" 1/. Assuming that one third of the costs can be raised and financed locally, the developing countries would still need, after the additon of financing costs, approximately $270 billion in foreign currency. The cost for only one sector therefore exceeds $400 billion. A more ambitious estimate (which would be inconsistent with the Lima objectives) based on current projects alone (involving 100 million tons) would necessitate an annual currency influx of $4 billion from 1980 to 1987, and of $20 billion thereafter. 2/

In the fertilizer sub-sector, the capital cost of increased productive capacity in the developing countries should reach $65 billion (between $53 and $75 billion at 1975 prices), to which transport costs (approximately $10 billion) would be added 3/. After deducting the share funded in national currency and adding financing costs, this would amount to an additional cost of about $100 billion.

1/ UNIDO, Report of the first consultation meeting on the iron and steel industry (ID/WG.243/6/Rev.1), 1 March 1977, p. 16. The estimated investment cost of $1000 per ton is insufficient for integrated iron and steel works.

2/ Interview with Grese Le Moal, Montpellier.

3/ UNIDO, Draft world-wide study of the fertilizer industry (UNIDO/ICIS. 22/Rev.1), 28 December 1976, pp. 3-4, 217 and 235-236. Here also the estimates certainly fall short of requirements (capital needs of the potash mining and posphates sector).

A table showing the relative shares of the developed and the developing countries in the manufacture of certain products [4] suggests, after a glance at the production goals, the staggering scale of the investment required to enable the developing countries to attain the Lima target (25% of world industrial potential in the year 2000, as compared with 9.3% in 1972). In a report of 12 April 1978 [5], the UNCTAD secretariat, using relatively straightforward techniques (Harrod-Domaz model, incremental capital-output ratio of 2.9), evaluated the growth rates required in industry (9.6% per year) and in the economy as a whole (7.5% per year) [6] to enable industrial production in the developing countries to rise from a value, in terms of the 1972 dollar, of $219 billion in 1980 ($130 billion in 1975), to $580 billion in 1990 and $1411 billion in the year 2000. [7] With an incremental capital-output ratio of 2.5 in the industrial sector [8], the attainment of the Lima target would require an industrial investment of $900 billion between 1980 and 1990, and of $2100 billion during the following decade. If the share of imported capital goods is reduced to 60% and a 10% provision is made for technical assistance and training expenditure, an annual influx of $60 billion, excluding financing costs, must be ensured during the first decade, and $140 billion during the second. The depreciation of the dollar since 1972 and the addition of financing costs would increase the required annual influx to $100-$200 billion.

4/ Annex I.
5/ UNCTAD, "The dimensions of the required restructuring of world manufacturing output and trade in order to reach the Lima target" (item 9 - supporting paper) (TD/185/Supp.1).
6/ Ibid. pp.5-6.
7/ Ibid. table 1, p.4.
8/ UNIDO estimate based on data on 13 countries for the period 1955-1964.

The sole purpose of these figures is to show that even if the Lima Plan is unfeasible, the partial achievement of some of its objectives requires taking into account the problem of technology transfer. Without going into the question of how to bridge the gap between an annual flow of approximately $40 billion to all sectors of the economy, and a flow of $100 to $200 billion to the industrial sector alone, consideration will be given to the means of increasing the external financing of the industrialization of the developing countries so as to prevent the Lima Plan from remaining completely unfulfilled.

The following points will be stressed:

(a) There are serious misgivings about placing excessive reliance on conventional methods applied since the Second World War, involving direct private investment and bilateral or multilateral assistance on favourable terms. In these circumstances, it will be essential for international organizations to devote greater efforts to analysing and lowering barriers to the other two methods of financing: recourse to the international capital market (in particular the eurocurrency market) and increasing export earnings (especially those generated by industrial development itself);

(b) Recourse to the international capital market may take different forms with varying impacts on financing costs and on the feasibility control of industrial projects. It will therefore be necessary to study the respective potentials, advantages and disadvantages of supplier credits and direct bank loans;

(c) An increase in the export earnings of the developing countries will become their principal resource and entail a modification of the

customs regulations applied to imports of manufactured goods. To avoid being unrealistic, studies would have to be undertaken to determine the impact on the employment situation in the developed countries of an increase in the export of capital goods under clauses providing for the repurchase of products manufactured with the exported equipment.

With regard to the three foregoing points, and on the basis of facts which have not yet been exhaustively studied, working hypotheses and research methods will be proposed, which, if followed, would yield greater insight into the controversial problems of financing the transfer of industrial technology to the developing countries.

I. SHARE OF VARIOUS TYPES OF FINANCIAL TRANSFER IN THE FINANCING OF THE LIMA PLAN

"Aid" in the strict sense of the term, consisting of transfers on easier conditions than those of the market, is not insignificant, since it amounted to nearly $13 billion in 1975 9/. However, it obviously falls short of the expectations of the Lima Plan, and seems unlikely to increase to a significant extent.

Since 1970 the real value of aid granted by the OECD countries has diminished ($11 billion as compared with $10.1 billion in terms of the 1975 dollar). Over the longer term it has been hopelessly

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9/ OECD = $10.1 billion; OPEC = $2.4 billion; socialist countries = $0.281 billion; China = $0.166 billion.

stationary ($5.2 billion in terms of the 1961 dollar, and $9.5 billion in 1974, or an increase in real terms of 0.36% per year between 1961 and 1974). Moreover no progress has been made towards the objective of a transfer of 0.7% of gross national product (GNP). On the contrary, in 1961 the OECD countries devoted 0.53% of their GNP to aid on easier terms; since then, this figure has sagged between 0.35% (1969 and 1975) and 0.29% (1973). If a long period of slow growth is beginning, it is hardly possible to expect more to be done than during the phase of rapid growth. Nevertheless, there has been a redistribution to the advantage of the least developed countries of the aid granted by the OECD countries on easier terms. 10/

Between 1970 and 1975 total aid has diminished by 3%, but increased by 50% for the least developed countries. It has therefore decreased by 33% for middle-income developing countries 11/. Unfortunately, however, the benefits of industrial development will probably be more

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10/ Afghanistan, Bangladesh, Benin, Bhutan, Botswana, Burundi, Central African Empire, Chad, Democratic Yemen, Ethiopia, Gambia, Guinea, Haiti, Lesotho, Malawi, Maldives , Laos, Mali, Nepal, Niger, Rwanda, Samoa, Sikkim, Somalia, Sudan, Tanzania, Uganda, Upper Volta, Yemen Arab Republic.

11/ The middle-income countries are those which have a per capita GNP of less than $250, but which do not appear on the preceding list because of the level attained in respect of other indicators: Burma, Democratic Kampuchea, India, Kenya, Madagascar, Pakistan, Sierra Leone, Sri Lanka, Togo, Zaire. The other countries are classified in the following groups:
Oil-exporting countries: Algeria, Angola, Bahrein, Brunei, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libyan Arab Jamahiriya, Nigeria, Oman, Qatar, Saudi Arabia, Trinidad and Tobago, United Arab Emirates, Venezuela;
Countries exporting manufactured goods and having a fast growth rate: Hong Kong, Israel, Lebanon, Malta, Mexico, Republic of Korea, Singapore;
Countries with a per capita GNP above $250: others.

difficult to attain in the least developed countries. Assistance will therefore be devoted to agricultural projects or the establishment of infrastructures. This would reduce the amount of resources available for the industrial sector.

Hopes have been raised that substantial aid from the OPEC countries will offset the decline in that of the OECD countries. OPEC commitments at present exceed its net disbursements (5.3 in 1974), although the latter may be expected to increase and approach the level of the former. It seems unlikely, however, that public development aid by the OPEC countries will significantly increase the absolute value of total aid. On the one hand, the surplus earnings of many oil-producing countries will decline in the years ahead 12/, and others will find their accumulated capital depreciated by world inflation. On the other hand, aid has never been purely altruistic; it is recovered in the form of export earnings which would not have been possible otherwise. However, unlike the OECD countries, the OPEC countries will not have the benefit of such returns, and will not therefore indefinitely finance, free of charge, orders directed to the developed countries alone, which have the added disadvantage of competing with their own orders and thereby contributing to the rise in equipment prices. The only possibility of substantially improving the prospects of financing the Lima Plan by financial transfers on

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12/ See forecasts by Angelopoulos, "Pour une nouvelle politique du développement international", PUF 1976, p.80.

easier terms from the OPEC countries would be to devise a system of aid at very low interest rates, but based on indexation. This would be the best solution for oil-producing countries whose accumulated capital is being devoured by world inflation. It should therefore be studied with the financial authorities of the countries concerned.

Should direct private investment be relied on to finance the industrialization of the developing countries? The response would seem to be in the affirmative, judging by the institutions established (for example, the International Centre for Settlement of Investment Disputes (ICSID)), the legislation enacted and agreements concluded (investment codes, investment protection treaties), the international commissions set up and the reports produced (codes of conduct for multinational corporations etc.). It is true that direct investment accounted for a growing share of the flow of private capital between the end of the nineteenth century and the 1960s. But it should not be forgotten that 3/4 of the direct investments of the developed countries are made in other developed countries. Of the 1/4 intended for the developing countries, only 31% were made in the industrial sector during the period before 1970. The evaluation of this investment is very uncertain: OECD figures 13/ show a rather modest increase in nominal value ($2537 million for 1956-1957;

13/ OECD development assistance review (annual).

$3767 million for 1970-1971), which amounts to stagnation in real value. 14/

Since 1971 the increase appears to be substantial: according to a World Bank report, private investments rose from $3630 million to $6710 million in 1973, and $10330 million in 1975. This represents an increase by one third in real value. However, it would seem to be unwise to rely in future on the contribution of direct foreign investments in most countries. In fact, they are viewed with strong misgivings by both partners. The investors have no confidence in the stability of laws and institutions, and tend to derive benefit from investment codes only in the case of industrial units with a low national added value (assembly, packaging, pneumatic tires etc.). These are in fact covert commercial transactions. The host countries are suspicious of the unfamiliar practices of units controlled by foreign capital, and tend increasingly to require majority national participation, which inevitably leads their partners to minimize their contribution in the form of capital inputs. Countries which enjoy the confidence of foreign capital holders are also affected by this trend. Thus, in the Republic of Korea direct private investment represented only 9.6% of financial transfers in 1974, and 72% of this investment was made in joint ventures, in which foreign capital held a minority share.

14/ Price rise in the OECD countries of approximately 55% for a 60% increase in investment.

If the foregoing analysis is correct [15/], it has two important consequences for the attainment of the Lima objectives. On the one hand, rather than concentrating on the problems of private investment, it would be better to focus attention on the probelms raised by other forms of technology transfer (industrial co-operation without capital flows or in joint ventures with minority foreign participation). On the other hand, financing must be sought through two other channels: the financial market and export earnings.

II. RECOURSE TO INTERNATIONAL FINANCIAL MARKETS

Traditionally, developing countries acquiring industrial technology and equipment availed themselves of credits granted by the sellers and channelled through the national banking system of supplier credits. These credits are provided at favourable rates thanks to budget allocations by the treasury departments of the exporting countries. But a part of the resources comes in the end from

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15/ Any doubts on this point should be cleared up, because it appears certain that the outlook for private investment in future is, to say the least, unpromising. A brief study could be made of the nature of direct investments and a synthesis drawn up of the views often expressed in industrial circles in the developed countries.

the international market, where specialized institutions (for example, the French Bank for Foreign Trade) raise loans covered by State guarantees. There is hardly any basic difference between these credits granted to exporters and "buyer credits" extended directly to buyers in developing countries by the banking system of the country exporting capital goods. In both cases, thanks to State subsidies, the rates are lower than those of the market, and the funds may only be used in payment for the purchase of goods and services.

Supplier credits and their equivalents represented, both in 1974 and 1976, a quarter of total bank credits. In 1974 they amounted to $4.59 billion (of which probably one fourth went to the oil-producing countries).

The second form of private credits comes more directly from the eurocurrency markets; these are eurocredits granted in general for periods of 3 to 12 years by banks that wish to invest their international liquidities outside the issuing country. The amount is difficult to determine because some are announced and not drawn, and others remain unannounced. The eurocurrency markets may thus be called upon to refinance existing credits at less favourable conditions, which does not enlarge total stock. However, as an indication of the amounts involved, the volume of recorded eurocredits in millions of dollars over a number of years is given below 16/:

16/ Wellons, "Borrowing by Developing Countries on the Euro-currency Market", OECD, 1977.

Year	Eurocredits (millions of dollars)
1971	1065
1972	2052
1973	5551
1974	7734
1975	7700

To these eurocredits are added longer-term eurobonds and foreign bonds (bonds invested in a country whose currency has served as units of account). Few are issued by developing countries ($777 million in 1975) 17/.

Concern for development financing requires that consideration should be given to the potential of this market, its cost, its impact on the dependence of developing countries, and its usefulness in determining the feasibility of industrial projects.

(a) Potential of the financial market. This is a very controversial subject. At first sight the financial market appears to have grown considerably, thus suggesting that everything is possible: the gross value of eurocurrency market commitments rose from $15 billion in 1964 to $258 billion in 1975 18/.

17/ Emmanuel, "Le marché des eurooobligations", in Finance et développement, September 1976.

18/ The figure is $205 billion, if overlapping transactions are eliminated.

It is true that a large part of these transactions involve maturity periods which are completely unsuitable for the financing of industrial projects (95% of the commitments on the London market are for less than 3 years and require intermediation) 19/. But eurocredits (3 to 12 years in general) and eurobonds (over 15 years at fixed interest rates) have increased considerably throughout the world: $70 billion for the former and $20 billion for the latter from 1973 to 1975 20/. The controversy centres on the capacity of the developing countries to derive benefit from a substantial proportion of these credits. Are they sufficiently solvent to do so? Admittedly, the debt servicing of the 86 developing countries has significantly improved ($3.2 billion in 1965; $11.4 billion in 1974); but so have their debts (approximately $250 billion in 1976, as compared with $75 billion in 1970).

Inflation depreciates a part of the debt each year, and debt servicing, expressed as a percentage of exports, has improved very little (80% in 1976 as against 77% in 1967 for the richest countries; 200% as against 184% for the non-oil-producing countries). Account should also be taken of reserves, which have also increased ($47 billion in 1976 as compared with $9 billion in 1967 for non-oil-producing developing countries). Hence there is no reason to fear greater

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19/ Conversion of a short-term resource into a medium-term commitment.

20/ A sum of $25 billion in foreign bonds should be added.

insolvability, especially since the loss ratio for the developing countries is no different from that for the developed countries 21/. The developing countries could therefore benefit by the increase in the volume of available capital. However, on the one hand, their solvability may diminish if the proportion of private and public loans shifts in favour of the former, owing to their stiffer terms 22/; on the other hand, the developed countries are competing with the developing countries for this capital. The balance of payments deficit of the developed countries is such that they must resort to borrowing; in addition to offering greater security to lenders, they have the means of opposing the granting of loans to developing countries. Thus the United States Securities and Exchange Commission and the prevailing fiscal regulations discourage the access of foreign

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21/ It would be otherwise if governments and international institutions did not from time to time allow debt moratoriums or consolidation (statement of Mr. Greayer to the London Conference of October 1977, cf. Euromoney, November 1977).

22/ According to Klein, the projected coefficients of debt servicing to commitments in 1974 are much higher for private loans than for public flows.

	Five-year period (%)	Ten-year period (%)
Government loans	38	71
International institutions	31	69
Private sources	79	124

"L'endettment extérieur des PVD" in Finance et développement, December 1976.

borrowers to United States capital markets. And the proposals made to the Manilla conference in October 1976 by the joint ministerial committee of the Boards of Governors of the World Bank and the IMF on the transfer of real resources to the developing countries, which are presented below [23], may well remain vain hopes:

"A general agreement providing for preferential treatment to the developing countries would be extremely useful if the developed countries were prepared first to place their own borrowers at a disadvantage in certain circumstances, and (or) secondly to relax the restrictions generally applied to non-resident borrowers, in order to grant a larger share to the developing countries."

From 1973 to 1975, however, the share of eurobonds accounted for by the developing countries fell from 9.5% to 2.7%, and that of foreign bonds dropped from 5.3% to 2.7%.

A further uncertainty relates to the term of the loans. When the financial situation is unfavourable, eurocredits have shorter terms and are therefore less adapted to the financing of industrial projects. Eurocredits of 1 to 6 years represented only 7% of eurocredits to developing countries in 1973 [24], and their share increased to 18%

23/ Ahmad, "Les pays en voie de développement et l'accès aux marchés financiers", Finance et développement, December 1976, page 30.

24/ Wellons, op. cit., p. 36.

in 1974 and 73% in 1975. Eurocredits of more than ten years were 15% of the total in 1973 and 1974, but there were none at all in 1975 and 1976 25/.

Finally, the fact that the group of developing countries as a whole can draw on a larger share of eurocurrency market capital does not mean that the majority of the developing countries are able to do so; 81% of eurocredits have to date been granted to 15 developing countries, 13 of which belong to the "rich" group, and one of which is the Republic of Korea. None of the least developed countries appears on this list. 26/ This situation is normal, taking into account the criteria applied by multinational banks in the evaluation of risks; level of GNP (from $63 to $1500 per capita in 1975 for the non-oil-producing countries); market growth rate (from 0% to 10% per year depending on the country); ratio of debt servicing to export earnings (less than 5% for 30 countries, 5% to 12% for 31 countries, and over 12% for 22 countries). Some countries such as Zaire have been unable to honour their maturities for exclusively administrative reasons.

Substantially increased recourse to the eurocurrency markets is therefore possible for some countries, but for most the situation is highly problematic. Any action designed to promote guarantees

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25/ Ishan Kapur "L'offre de financement en euromonnaie aux pays en développement", Finance et développement, September 1977.

26/ See Annex II.

from the developed countries would clearly be favourable, regardless of the form given to the guarantees (involvement of governments and international institutions in the credit transactions, securities etc.). It is also probable that any action taken to assist developing countries in providing the markets with fuller information concerning their financial situation, as in the case of the Ivory Coast, will increase the chances of success of this source of financing.

Nor should it be forgotten that supplier and buyer credits are likely to increase. Competition between countries selling capital goods may prompt governments to sign with buyer countries financial protocols providing for project financing (related equipment and services) totally or mainly by national enterprises. The interesting feature of such protocols is that they define minimum thresholds for orders, instalments, credit terms, repayment schedules, the nature of the guarantees etc. They may be completed by even more precise bank protocols.

Action on the quantity of eurocredits and supplier and buyer credits is therefore necessary and possible. Are qualitative measures also possible?

(b) Qualitative problems and action on the financial markets.

The cost of loans is high and unstable. Kenya's hostility to the eurocurrency markets stems for example from the disappointment experienced by

this country when it contracted a loan in 1972 at a variable rate of 5.5%, and found itself in 1974 with a rate of 14%. Moreover, an exemption period of 42 months was accompanied by a prohibition on prepayment during the same period. In 1973 the Ivory Coast contracted certain loans at 7 3/4%, and had to pay 13 1/16% for others. It has been estimated that the variation in rates could lead to a 20% variation in the servicing charges for the whole of a country's debt. International action to offset these variations is possible. Could they likewise be forestalled, perhaps through the intervention of monetary institutions during periods of currency shortages? With regard to the market rate itself, it is sometimes increased by excessively high security ratios applied for certain countries. Whereas the current world ratio does not exceed 1%, it amounted to 1 3/4% for Zaire. Similarly, in 1971, before establishing its national procedure for the control of borrowing, Brazil paid ratios of 2 1/4%. They fell to 1 1/2 in 1972. A programme for the training of national staff able to manage the external debt better would therefore be welcome. If competition among suppliers of capital increases, lending terms may improve. But there would be no point in creating new centres in the developing countries; the additon of Panama, Nassau or other financial centres to that of Singapore would in no way threaten the dominant position of the banks of the developed countries,

especially United States banks (about 250 of the 600 throughout the world). Their strength is based on central bank support and the mastery of financial techniques. Concrete expression of this support was provided in September 1974, in the form of assurances given by the central bank governors of the Group of Ten to the effect that assistance would be extended to their banks in case the latter found themselves in difficulty. Technical mastery, on the other hand, is based on the ability to convert short-term resources into medium- or long-term commitments (financial intermediation). Given these advantages, increased competition among suppliers will come about only as a result of Japanese and European dynamism, and of a gradual mastery of financial intermediation techniques by the oil-producing countries. To achieve such mastery, the monetary resources of their banks must be strengthened, and this could probably be ensured through the increased intervention of State or parastatal bodies in the countries concerned.

(c) Lowering and relative stabilization of rates. This would seem possible, especially if, parallel to the action taken on the eurocurrency markets, success is achieved in the promotion of supplier and buyer credits at lower cost and fixed interest rates. Is it possible, furthermore, to use the rigorous methods of the investor to control the soundness of technology transfer itself? This would seem to be unfeasible in case of supplier credits, because the most

important factor is the financial situation of the seller, the prospects of his being paid or compensated by government bodies, and not the soundness of the projects. Buyer credits must likewise be repaid by the borrower, regardless of the fate of the technology transfer contract. It would moreover be wrong to think that the case of eurocredits is different. The banker "pays hardly any attention to forecasts of project yield, because they do not reveal whether or not the government will repay" 27/. And this is even true if credit is granted to a firm: the mismanagement of Pertamina, which was of world-wide notoriety, did not prevent it from raising substantial eurocredits, because the banks had (rightly) anticipated that Indonesia would not allow its national company to fail, even though its borrowing was of dubious legality. It is significant that project data is not included among the five indicators which, according to Ishan Kapur, form the basis of a reputation for solvency: amount of currency reserves, GNP growth rate, changes in the debt coefficient (debt servicing/export forecasts), exports, the country's cumulative bank debt. The control of technology transfer by the investor will therefore occur only if the buyer country declines to give official guarantees (which is scarcely realistic), or if, in the case of supplier credits, governments introduce such a practice.

27/ Wellons, op.cit. Interview with the representative of a leading bank.

Whatever the success of the foregoing measures, public aid, private investment, supplier credits and recourse to eurocurrency markets will meet only 30% to 40% of industrial financing needs. A decisive increase must therefore be sought in export earnings.

III. FINANCING BY MEANS OF EXPORT EARNINGS

As progress is made towards the achievement of the Lima objectives, the problem of trade between developed and developing countries will assume a form radically different from that of the present. It will in fact resemble the traditional problem of free trade. The UNCTAD secretariat has constructed a trade model for the year 2000 based on the assumption that the 25% target will be achieved. The developing countries as a whole would produ 261 billion worth of manufactured products as compared with $273 billion in 1972 [28/]. On the basis of estimated import trends as determined by income and population levels, growth in the developed countries and the share of their imports accounted for by the developing countries, and a decline in mutual trade (between developing and developed countries) and income levels, the report provides an example, outlined below, of the structure of international trade.

28/ UNCTAD, op.cit. In absolute value, $1411 billion, as compared with $108 billion.

The developing countries import nearly 8 times as many manufactured products from the developed countries ($397 billion as compared with $54 billion in 1972).

The developing countries export 13 times as much towards the developed countries ($277 billion as compared with $20 billion). It should be noted that imports by the developed countries (from the developing countries) would represent only 4.4% of their industrial production instead of 1.1%, but the value of the exports of the developed countries remains higher than that of their imports. In absolute value, the gap has even widened ($120 billion as against $34 billion).

In the developing countries, with the exception of certain products (petroleum and iron and steel), the tendency to export towards the developed countries has grown (6% of their industrial production as compared with 3% in 1972).

Mutual trade between the developing countries shows an even greater increase, since exports of manufactured products to other developing countries expands from $7.5 billion to $170 billion.

At this stage, commercial obstacles to a harmonious model of the division of labour between developed and developing countries are identical to those encountered by the developed countries among themselves during the period 1950-1965. For the sake of mutual concessions, the developing countries will be the losers, just as the developed countries were. However, such long-term forecasting falls outside the scope of this study.

On the other hand, during the developing countries' take-off period two problems arise that cannot be overlooked, because their solution conditions the take-off itself, that is to say technology transfer, the financing of which will now be considered.

If all the plant transferred to the developing countries in a given year cannot be financed by total public development aid, supplier or buyer credits, borrowing on the financial market, and direct private investment, a part of the transfers will have to be either cancelled or financed by selling to the developed countries some of the products manufactured by the plant. The latter practice is exemplified by East-West industrial co-operation and by relations between socialists countries and developing countries. Is it possible on a larger scale? Taking a practical example to which reference has already been made, is it conceivable that the developed countries, in order to transfer a production capacity of 100 million tons of iron and steel products to the developing countries, would commit themselves to repurchase 35 to 65 million tons over a ten-year period? 29/

The response would be in the affirmative only if the fears of the developed countries concerning the stability of employment were

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29/ It is 65 million tons if the developed country is fully paid in products and if the developing country has to finance its coke imports by means of its exports of iron and steel products; it is 35 million tons if one half of the foreign investments are likely to be financed through other financing channels.

allayed. It is to this fundamental task that UNIDO should devote itself if even limited progress is to be made towards the Lima objectives.

It seems possible to take a dispassionate, scientific approach to this problem. Assessing the direct impact on employment of a plant sale involving product repurchase is relatively easy. For a typical plant in each sector, it is possible to evaluate the amount of various types of equipment, services and transport required. A corresponding employment value may be assigned for each of these amounts, a distinction being made between engineers, technicians, and skilled an unskilled labour. These values would represent an increase in total employment in the selling country. Among the direct liabilities would be the employment value of the repurchased products. It is now possible to go further and measure (approximately) the indirect effects: each branch affected in a positive or negative sense is in fact a buyer of intermediate goods from other branches of the industry of the transferring country, and this may be viewed in terms of so many orders (hence employment opportunities) generated or lost. Work carried out in Bulgaria, France, the United States and the USSR make such measures possible 30/.

If such research produces positive results in the field of industrial co-operation, and if the developed countries are prepared, in their own peoples'interest, to adopt structural reforms making

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30/ There is a real possibility that the employment situation will improve quantitatively, and especially qualitatively. But even if some employment disappears, this loss would be compensated by new employment opportunities for engineers, technicians and skilled labour.

possible labour and capital mobility from certain sectors towards others 31/, a study must still be made of the problems arising from technology transfer contracts involving product repurchases.

The easier problem is that of trade barriers. It concerns the type of authorization to be given for importing the products of the plant that is sold. In opposition to this are quantitative restrictions (products with an organized market, for example sugar, controlled products such as some fertilizers, certain iron and steel products, electronic components etc.) and customs duties that discourage purchases abroad. But customs laws have already been applied in the case of benefits granted for specially commissioned work carried out beyond national frontiers. Every contract for the sale of equipment with technical assistance and product repurchase should be regarded as a transaction that promotes an automatic improvement in skills. In this type of transaction, the value of the product is estimated by deducting the fraction representing goods and services produced in France. This may involve, for example, moulds exported by France for production purposes, or plans and designs, or tape-recordings for manufacturing records abroad. The special regulations on customs value provides for the possibility of extending these provisions to intangible goods such as trade marks. It would also be worthwhile to consider extending it to the part of the product value

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31/ The extent of these transfers should not be exaggerated. The repurchase of 65 million tons of iron and steel products would represent no more than 7% of the steel production of the developed countries in 1990.

representing the depreciation of the material of the importing country or the costs of training and technical assistance. Various provisions of the traditional regulations would have to be discarded [32/], but there would be no fundamental changes on matters of principle.

The second problem is more difficult, and relates to the product repurchase price. Most of the products will have a cost price higher than that of identical products in the more developed countries. When the discrepancy is small, it is not an insuperable barrier if the repurchase price reduces or even wipes out the profit. Economies of scale due to excessive plant dimensions in relation to the internal market capabilites of the individual developing countries will probably compensate for eventual losses. On the other hand, if the price discrepancy is large, it must be ensured that the repurchase price of the products exceeds the cost of imported goods and services (including currency depreciation), plus the price that the country would have obtained for the exportable raw materials incorporated into the plant products, plus a minimum reference price for labour. There is no certainty that this will always be the case, and a brief study would suffice to highlight the danger. The solution probably lies in the very form of the technology transfer contract. If the contract is based on performance guarantees and the obligation to achieve results, it

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32/ Article 2628 requires, for example, that French supplies should not have been sold to the foreign manufacturer, but provided free of charge.

will need the support of forecast trading accounts giving prominence to the various cost price entries. The partner from a developing country will therefore have the means of appreciating the role of the product repurchase price provided for in the same contract. Studies of such product repurchase contracts should be undertaken. Transferers of equipment will commit themselves to repurchase products only in so far as it proves necessary in order to repay the credits extended for factory installation. What will occur then?

The country transferring the technology may fear that it has created a competitor. But, on the one hand, whether or not a competitor is created is a matter over which the country concerned has no control. If it does not transfer the technology, a rival firm in another country with a market economy or a centrally planned exonomy will do so. However, whether or not its national market is open during the period of settlement of the equipment transfers does depend on the country concerned. On the other hand, it has been seen from the global model of the UNCTAD secretariat that the industrial development of the developing countries would not take place without some compensatory benefits for the developed countries. Has not their prosperity been strengthened by international trade?

A country acquiring technology, after repaying the cost of the unit, will cease to have special access to the market of its supplier. But in 10 years its own market will have developed to

the point where it will be able to absorb its export flows. Moreover, it will then be able to invoke the generalized system of preferences established in 1971. But this is another matter relating more to the study of the problem of a new international division of labour than to that of the financing of technology transfers, to which this study was confined.

Annex I

SHARE OF DEVELOPING COUNTRIES IN WORLD PRODUCTION OF SELECTED PRODUCTS IN 1974

Product	Unit	World production	Share of the developing countries
Wool yarn	1000 tons	2 000	204
Cotton yarn	"	10 801	2 720
Cotton fabric	Million m2	45 358	16 800
Wool fabric	"	3 400	500
Rayon cloth	"	9 030	2 387
Other synthetic fabrics	"	6 575	3 222
Footwear	Million pairs	798	43
Mechanical woodpulp	Million tons	30	2.6
Chemical woodpulp	"	84	1.3
Paper	"	112	2
Acetylene	1000 ton	1 130	40
Ethylene	"	14 600	200
Propylene	"	12 000	100
Acetaldehyde	"	2 052	25
Acrylonitrile	"	1 485	22
Sulphuric acid	Million tons	104.5	6
Phosphoric acid	1000 tons	11 590	580
Polypropylene	"	2 091	≈ 0
Polystyrene	"	4 169	100

Product	Unit	World production	Share of the developing countries
Soap	1000 tons	6 116	1 300
Drawn and blown glass	Million m2	1 036	47
Copper smelter output	1000 tons	7 839	3 150
Copper refinery output	"	8 664	1 873
Copper wire	"	2 687	70
Copper sheets	"	946	9
Copper pipes	"	844	14
Crude aluminium	"	15 302	912
Aluminium wire	"	1 067	20
Aluminium sheets	"	4 801	81
Aluminium pipes	"	309	6
Metal work	"	187	--
Cables	"	959	--
Diesel engines	1000 units	1 951	260
Ploughs	"	784	28
Tractors	"	1 745	85
Refrigerators	"	36 094	2 410
Electric motors	Million units	271.5	2.1
Television sets	"	52.8	4.3
Radios	"	73.4	8
Transformers	1000 units	4 255	100
Trucks	"	205	34
Bicycles	Million units	43	4.8
Cars	1000 units		
Assembled		1 784	250
Produced		25 867	1 077

Annex II

PUBLISHED EUROCREDITS TO DEVELOPING COUNTRIES [a]

(BY INCOME CATEGORY AND REGION CONTRASTED WITH OTHERS IN GROUP)

January 1971 - June 1975

Area	Income category (millions of United States dollars)			
	Oil Producer	Higher Income [b]	Middle Income	Lower Income
Africa:	2,400 (7%) [c]	335 (1%)	737 (2%)	802 (2%)
	Algeria (2,179) Gabon (196) Nigeria (25)	Zambia (335) (Botswana) (Tunisia)	Egypt (230) Ivory Coast (209) Morocco (200) Senegal (85) Cameroon (10) Swaziland (3) (Congo, P.P.R.) (Ghana) (Liberia) (Mauritius)	Zaire (466) Sudan (260) Guinea (40) Kenya (20) Mauritania (8) Malawi (5) (17 Countries) [d]
Asia:	4,962 (14%)	1,279 (4%)	2,135 (6%)	18(*) [c]
	Indonesia (2,266) Iran (1,696) Iraq (500) UAE (495) Saudi Arabia (5)	Malaysia (641) China Rep. (358) Lebanon (142) Oman (113) Bahrain (15) Israel (10) (Fiji) (Singapore)	Philippines (1,376) Korea, Rep. (744) Thailand (15) (Jordan) (Syria)	India (10) Pakistan (8) (Afghanistan) (Bangladesh) (Burma) (Sri Lanka) (Yemen)
Latin America	729 (2%)	14,927 (41%)	242 (1%)	--
	Venezuela (666) Ecuador (63)	Mexico (5,444) Brazil (5,336) Peru (1,570) Argentina (891) Panama (420) Colombia (385) Nicaragua (263) Jamaica (234) Uruguay (130) Costa Rica (67) Bahamas (57) Trinidad & Tobago (54) Guyana (52) Dominican Republic (24) (Chile) (Guatemala)	Bolivia (147) El Salvador (95) (Honduras) (Paraguay)	(Haiti)

a/ IBRD Eurocredit Summary, various issues. These are only the African, Asian and Latin-American members of the IBRD. Countries parenthetically noted did not announce eurocredits during the period.

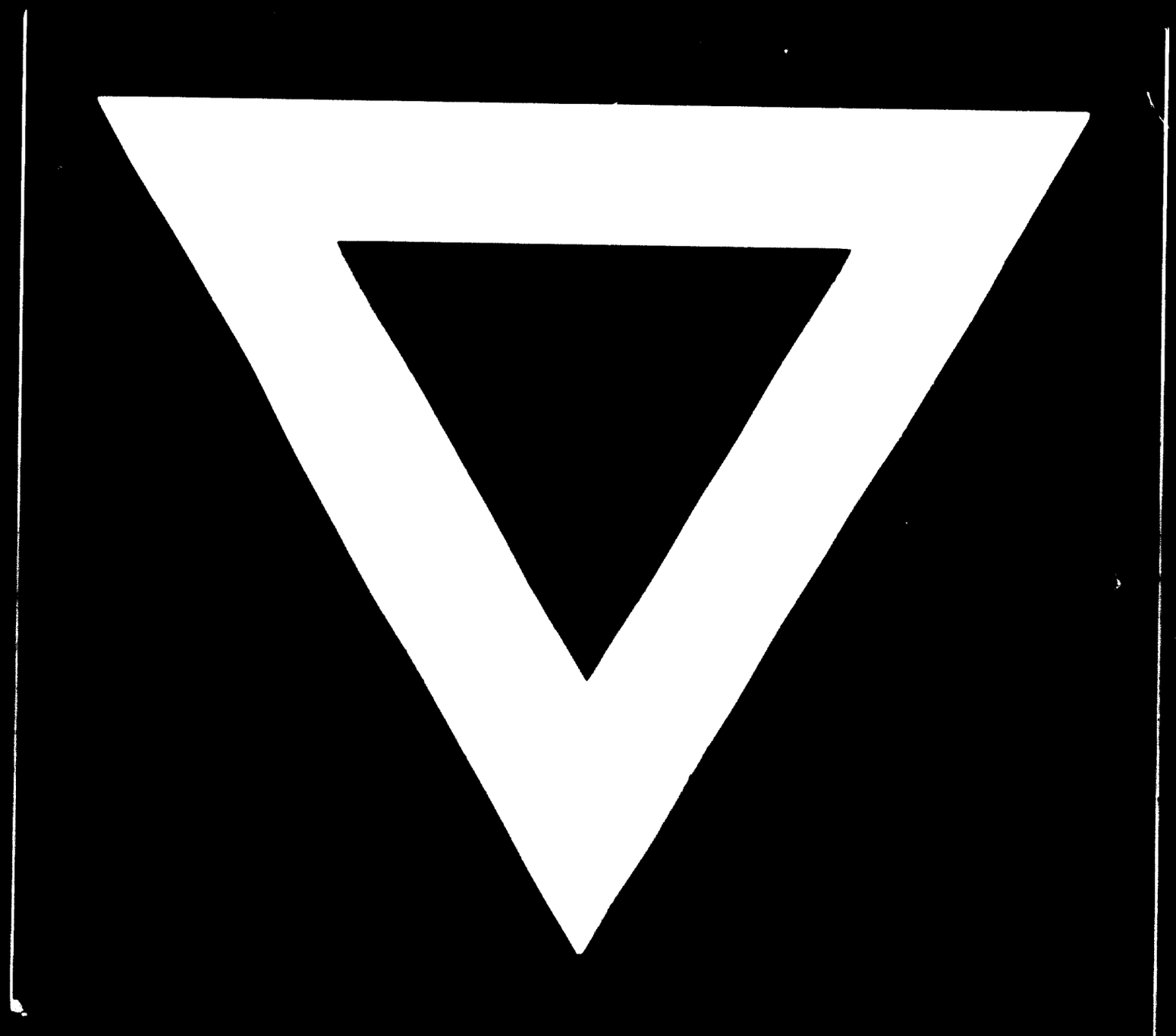
b/ Higher-income countries have more than $375 per capita; middle-income, $200-$375; and low-income, less than $200.

c) Percentage in parentheses is the portion the total for the category bears to all published LDC eurocredits, $36,330 million during the period. This, of course, exceeds the total borrowing by IBRD members of $34,968 million. The asterisk means less than 0.5%.

d/ Burundi, Central African Empire, Chad, Dahomey, Ethiopia, Gambia, Lesotho, Malagasy Repuglic, Mali, Niger, Rwanda, Sierra Leone, Somalia, Tanzania, Togo, Uganda, and Upper Volta.

Source: Wellons, op. cit., p. 31.

G - 69



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