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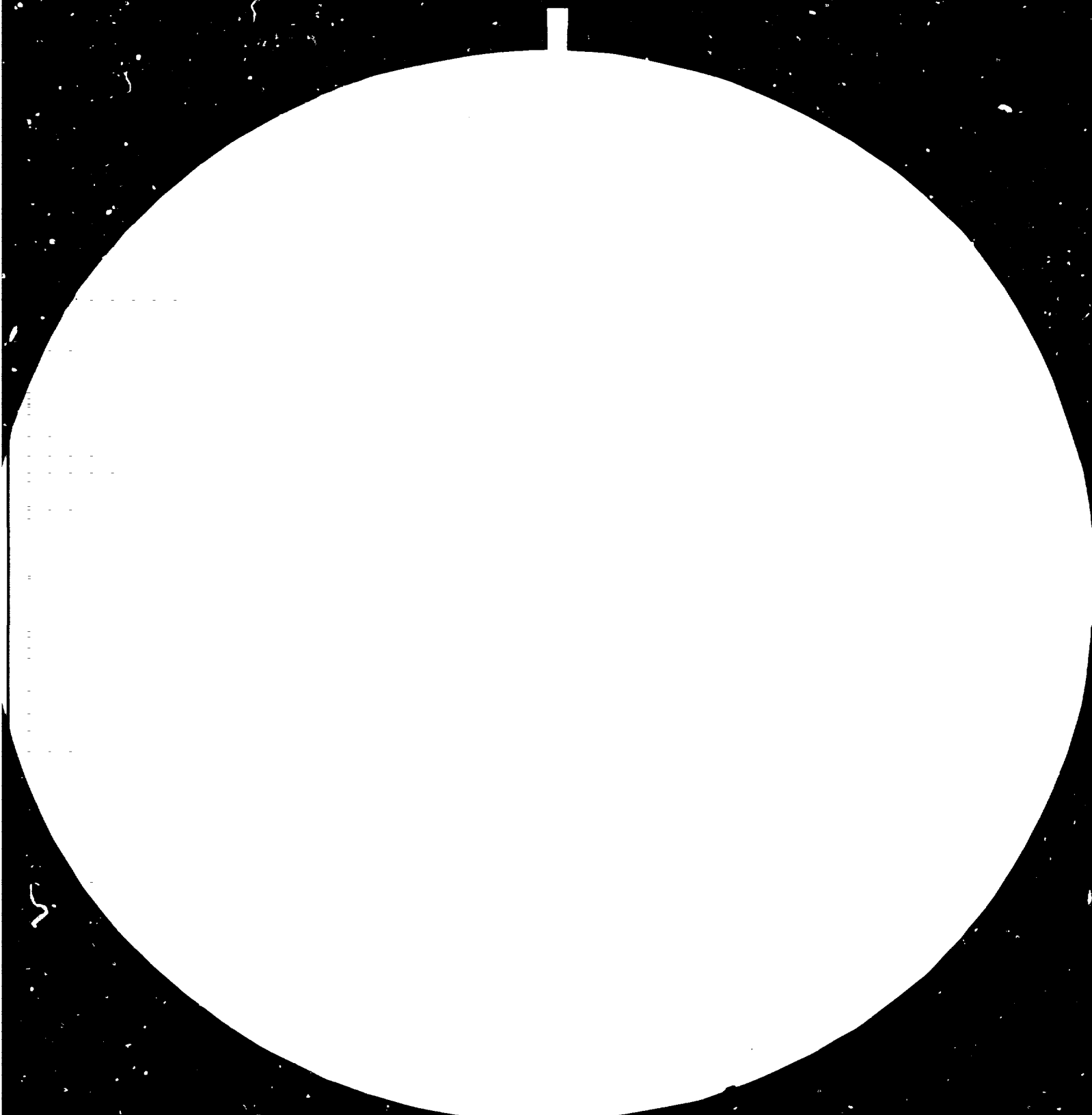
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REDEPLOYMENT OF INDUSTRIES
FROM DEVELOPED TO DEVELOPING COUNTRIES

Studies undertaken by UNIDO on industrial
redeployment and restructuring

Report by the Executive Director

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Summary

Based on studies on the subject, an overview is provided of past and current industrial redeployment strategies and policies. Extensive analysis is made of possible future redeployment from developed to developing countries and of the difficulties in predicting trends for the coming decade. Attention is drawn to the need for action to counteract negative trends.

Introduction

1. Pursuant to General Assembly resolution 31/163 of 21 December 1976, on redeployment from developed to developing countries,^{1/} UNIDO has continued to carry out studies on this subject. In addition, the New Delhi Declaration and Plan of Action on Industrialization of Developing Countries and International Co-operation for their Industrial Development, adopted by the Third General Conference of UNIDO, emphasizing that the redeployment of industries from developed to developing countries was an essential factor in the restructuring of world industrial production,^{2/} requested UNIDO to pursue its research programme in the field, in particular to undertake continuous surveillance of the industrial restructuring process, analysis of the changing international division of labour, in order to locate and identify natural, sectoral endowments and examination of prospects of and obstacles to redeployment.^{3/} It may be recalled that the Industrial Development Board at its fifteenth session (May 1981), in considering the item on redeployment, requested the Executive Director to prepare a comprehensive report on the subject for consideration by the Board at its sixteenth session.^{4/} In response to this request, the present report provides a synthesis of the major findings of the UNIDO research programme during 1981, together with an overview of recent studies.

2. The UNIDO redeployment programme constitutes an analysis of current developments and trends in the general process of redeployment and structural change. It does not entail any operational activities for promoting actual redeployment of industries by establishing direct contacts between potential partners in developed and developing countries - such activities are carried out in the framework of the Investment Co-operative Programme Branch and its Investment Promotion Services. The research carried out under this programme addresses itself to the question of the nature of the ongoing and prospective process of redeployment. On this basis, an attempt is made to formulate general policy recommendations conducive to gradual and non-disruptive restructuring of world industrial production.

I. THE CONCEPT OF REDEPLOYMENT

3. In the Lima Declaration and Plan of Action and in the resolutions on redeployment, no precise definition is given of the concept of redeployment, which has subsequently been subject to various interpretations and qualifications.^{5/} One basic notion of redeployment is that industrial activities that lose their competitiveness in developed countries could be gradually discontinued there and adopted by the developing countries. To this end, investible resources

1/ Resolution 31/163, inter alia, requested the Executive Director to prepare studies which would include "(a) Recommendations concerning an interrelated set of policies, taking into account environmental and labour market conditions and including financial and trade measures for promoting redeployment, as well as the economic structure and the economic, social and security objectives of the developed countries and the principle of permanent sovereignty of States over their natural resources" and "(b) The identification of specific industries and sectors of industries which would be amenable to accelerated redeployment to developing countries in the context of section IV, paragraph 2, of resolution 3362 (S-VII)." The resolution stipulated that the results of the studies be submitted to the Board and that the Board include redeployment as a regular item on its agenda.

2/ ID/CONF.4/22, chap.VI.

3/ Ibid., para.143.

4/ A/36/16, para.149.

5/ Cf. ID/B/251, paras.5-7.

and/or know-how would be transferred to a developing country where a redeployed production line would serve the market originally served by the developed country company. This notion of industrial redeployment implies that the decisive criteria for the location and relocation of industries lie in the relative factor endowment and the resultant relative cost of production for industrial production in developed and developing countries. On the basis of this hypothesis, it would be possible to identify those industries which, due to their particular factor proportions, could be subject to redeployment to developing countries.

4. In its research programme on redeployment, UNIDO has attempted to establish to what extent the above mentioned pattern is being followed. For this purpose, major agents in industrial redeployment were identified and the factors conditioning their decisions were examined. The findings of the programme showed clearly that the process is becoming increasingly complex and that no simplistic concept can be applied. In the present report, pertinent findings of the research programme are presented with a view to elucidating the current features of the process and arriving at a more realistic concept of redeployment and restructuring.

5. With regard to comparative advantages, a series of case studies^{6/} attempted to measure the revealed comparative advantages of developed market economy countries in trade with developing countries. These studies and the consolidated publication Structural Changes in Industry^{7/} showed that for the period under observation (broadly speaking the 1970s) the industrialized countries on the whole had high revealed comparative advantages in the machinery, transport, equipment and chemical sectors. In their trade with developed countries, the developing countries - not surprisingly - were shown to have comparative advantages in the textile, clothing, leather and footwear industries,^{8/} i.e. industries characterized by relatively labour-intensive, low-skill production processes.

6. Over the past decades, significant redeployment of labour-intensive production capacities from developed to developing countries has taken place through an "active" transfer of resources and/or through the penetration of developed country markets by producers based in developing countries. However, it would be incorrect to conclude that a new international division of labour is emerging in which developed countries possess predominantly skill- and capital-intensive industries while developing countries produce standardized, labour-intensive manufactures.

7. To assess prospective tendencies in the international division of labour, the mere extrapolation of trends in comparative advantages is insufficient. It is essential to take into consideration the motives, strategies and policies actually pursued by the major agents in the redeployment process i.e. Governments and companies. Moreover, it should be noted that (a) the concept of "comparative advantages" is a static one and (b) the traditionally used index of revealed comparative advantages is based on past actual trade flows and on the assumption that trade policies, transport costs, consumer preferences and other parameters will remain constant in the future. In addition, it would seem to be even more problematic to base projections of industrial redeployment on the conventional modes of classifying industries such as the Standard International Trade Classification (SITC) and the International Standard Industrial Classification of all Economic Activities (ISIC). In fact, there is an

6/ Cf. ID/B/251, annex: UNIDO working papers on structural changes.

7/ ID/266.

8/ For a more detailed analysis, cf. ID/266, chap. III, section on "Changes in foreign trade patterns: comparative advantages in foreign trade" (pp. 74-78).

urgent need to redefine the concept of "industrial sector" in order to identify the most crucial aspect of industrial restructuring, i.e. changes in the prevailing modes of inter-industrial flows of technology, capital and labour and the consequent changes of industrial hierarchies.

II. REDEPLOYMENT STRATEGIES AND POLICIES IN THE 1960s AND 1970s

General features

8. Throughout the 1960s and most of the 1970s, major agents by and large viewed prevailing patterns of industrial redeployment as "functional" for their goals and long-term interests. For firms based in major developed countries, offshore investment in developing countries meant that such firms could hold down labour costs and counter declining productivity in home locations. The capital goods sector was able to benefit considerably from technology transfers to developing countries and trade expanded significantly. For the developing countries, redeployment from developed countries of labour-intensive, often export-oriented industries was seen as a major means of obtaining higher levels of industrial employment, scarce foreign currency and resources for a sustained industrial development process.
9. The redeployment process was to a large extent a response to the broad wage differentials and narrow productivity differentials which existed between developed and developing economies in a wide range of manufacturing activities, particularly assembly and processing activities. Such a response was stimulated by several factors: (a) developments in production technologies allowed the production processes of many goods to be segmented and enabled such processes to be undertaken sequentially in different locations; (b) developments in communications and transportation technology appreciably lowered the costs involved in locating these production segments in plants in different countries; (c) government policies and incentives in both developing and developed countries supported such a redeployment process.
10. The transnational corporations (TNCs) were a major agent in this process. The TNCs could identify and make use of differences in production costs - mainly labour costs - as they possess the required resources, information and organizational basis. By breaking up production processes into separate parts, the large companies could establish an international network of production and distribution and determine optimal locations to ensure competitiveness and market access. These companies had the means both to establish new production capacities in the developing countries and to market the "right" products on the "right" markets.
11. Such strategies resulted in a rapid increase in the internationalization of industrial production. Intra-industry trade (i.e. trade within an industrial branch) grew very rapidly.^{9/} Intra-company trade^{10/} (i.e. trade between related parts of a company) is estimated to be of the order of one third of total international trade in manufactures. In addition, substantial numbers of international subcontracting arrangements evolved, by which companies in developing countries are contracted to produce specific individual parts and services for a foreign company. It is thus increasingly problematic to treat redeployment as a process of location and relocation of entire "industries" in terms of conventional statistical classification. Instead, a large amount of redeployment (particularly in the 1970s) involved the redeployment of sub-processes.

^{9/} E.g. Intra-industry trade of the European Economic Community with the rest of the world is estimated to have reached about 65 per cent of its total trade.

^{10/} Cf. "Intra-firm trade and international industrial restructuring" (UNIDO/IS.241).

12. Governments provided considerable support to the development outlined in paragraphs 10 and 11 above. Most developing countries designed special promotional policies for attracting foreign export-oriented companies such as taxation concessions, duty reimbursement schemes, and the subsidized (or even cost-free) provision of buildings and infrastructure. Case studies conducted on the Republic of Korea,^{11/} Tunisia^{12/} and the member countries of the Association of South-East Asian Nations^{13/} provide an insight into the policy framework for, and experience of, redeployment along the lines indicated above. Incentives designed to attract exporting companies and to support their operations include the creation of export-processing zones - a special study examined some of the major aspects and issues concerning such zones in developing countries.^{14/}

13. Governments of many of the developed market economy countries have established special national schemes to facilitate offshore processing in developing countries; a UNIDO study examined these schemes and their effects.^{15/} The United States of America, for example, has a special custom tariff item by which provision is made for offshore processing and re-imported products are subject to tariff only on the foreign value added. Similar regulations for "outward processing" have been formulated by the European Economic Community (EEC) for its member States. The UNIDO study showed that the temporary importation of components and materials from industrial countries for re-export after processing and assembly constitutes a significant and increasing proportion of manufacturing in developing countries. In 1980, export or offshore processing accounted for an estimated 12 per cent of developing country exports of manufactures. Imports to the United States of America alone of goods processed offshore by developing countries (mainly in Mexico and in South-East Asia) amounted to some \$6.3 billion in 1980.

14. It should be noted that besides the form of export-oriented redeployment outlined in paragraphs 8 to 13 above, significant redeployment took place to (larger) developing countries, based on the import-substitution policies of these countries. Previous UNIDO redeployment surveys at the company level in various developed countries^{16/} showed clearly that the major motive behind redeployment to developing countries by predominantly medium-sized companies was gaining or keeping access to the markets of the host country.

The case of two "traditional" industries

15. In order to highlight the specific features of the restructuring process of "traditional" industries, two sectors were examined: leather and textiles. The study on the leather and leather goods industry, which included detailed surveys of the Federal Republic of Germany and Sweden, showed that factor endowment and related factor costs have been decisive in determining changes of the location and structure of this industry.^{17/} So far, European production capacities have tended to move to locations in the southern part of the region (Italy, Portugal and Spain), which offer both cost advantages and the relative nearness of the large Central

^{11/} "A case study on industrial redeployment: the Republic of Korea" (in preparation).

^{12/} "A case study on industrial redeployment: Tunisia" (in preparation).

^{13/} "Industrial redeployment: the case of ASEAN" (in preparation).

^{14/} "Export processing zones in developing countries" (UNIDO/ICIS.176).

^{15/} "Offshore assembly, export-oriented industrialization and restructuring" (in preparation).

^{16/} Cf. ID/B/251, annex.

^{17/} Cf. "Structural change and redeployment opportunities in the footwear and tanning industry in the Federal Republic of Germany"; "Structural change and redeployment opportunities in the leather shoe and tanning industry in Sweden" (both in preparation).

European market.^{18/} In recent years, however, developing countries have emerged as efficient producers and exporters to the developed countries. In the period 1966 to 1977, the leather processing capacity of the developing countries increased by 35 per cent and leather footwear production expanded by 48 per cent. Available data show that in 1977 the developing countries were the major producers of leather garments, accounting for 56 per cent of the total world production. Similar trends may be discerned in exports of leather and leather products (particularly exports to major markets in the developed countries). Between 1970 and 1977, exports showed an annual average growth rate of 20 per cent for leather, 40 per cent for leather footwear and 35 per cent for leather products.

16. The developing countries clearly have a potential comparative advantage in terms of both low-cost labour and raw materials supply. Traditionally, those countries acted as exporters of raw materials to the major production units in the developed market economies. In recent years, however, such exports have been restricted through commercial policies, in order to stimulate the growth of the domestic leather and leather products industry. Redeployment of this industry to developing countries is currently hampered by a shortage of technology and skills, by transport costs and by lack of access to market information and/or distribution networks. Moreover, present tendencies seem to indicate that the predominantly small-scale producers in the EEC are showing increasing resistance to growing market penetration by producers from developing countries. It can thus be expected that divergent policies between developed and developing countries will evolve with respect to market access, raw material supply and production costs.

17. The pressures influencing the structure of the leather industry in industrialized countries are also clearly visible in the textiles and clothing industry.^{19/} Like leather, the textile sector can essentially be classified as involving relatively low-skill, labour-intensive activities. Thus, theoretically, there would be bright prospects for future development regarding the developing countries. Output in this sector has increased in the last decade in both developed and developing countries. However, the developed regions have been characterized by declining employment owing, *inter alia*, to productivity increases, and by declining exports as a result of competition with low-cost products from developing countries on the world markets. The future pattern in the sector points towards its growth in the developing countries (excluding newly industrializing countries) as the textiles industry in those countries progresses from being a cottage industry to being a highly mechanized industrial sector.

18. Essentially, redeployment in this sector has taken the form of relocating specialized lines of production according to the relative advantages of different regions in terms of labour productivity, appropriate know-how and technology. Production in recent years has migrated predominantly to the South-East Asian countries which have the advantage of combining low-wage labour with adequate technological skills. It is envisioned that at least a minimal amount of further redeployment will take place. However, it seems that the major constraint does not lie in limited transfers of resources, but rather in the policies pursued by the developed countries' Governments which, in order to protect producers in this sector, deny market access to low-price goods from developing countries. The implications of the Multi-Fibre Arrangement are especially valid in this context.

^{18/} Cf. "Structural change and prospects for redeployment of leather and leather products industry in the European developed market economies" (in preparation).

^{19/} Cf. "Structural adjustment in the textile and clothing industry" (in preparation).

III. INDUSTRIAL REDEPLOYMENT PERSPECTIVES

Major conditioning factors

19. The research carried out under the UNIDO industrial redeployment programme strongly implies that the proliferation of industrial production activities outside the traditional industrial growth poles of the Organisation for Economic Co-operation and Development (OECD) region and the member States of the Council for Mutual Economic Assistance (CMEA) (i.e. the redeployment of industries to the developing countries) is bound to continue and it is safe to assume that even the smaller and poorer developing countries will be drawn increasingly into global networks of industrial production and trade. With regard to distributional effects, all indicators point to a further hierarchization of the distribution of manufactured value added amongst the developing countries. Those who profit most will certainly be various urban centres in Latin America and South-East Asia; those who profit least of all will be the already poorer and/or least developed countries.

20. Amidst a severe global economic crisis, world industry is experiencing drastic structural changes. The full consequences for the developing countries are yet to be ascertained. However, it may be assumed that industrial redeployment during the next 10 to 15 years will differ considerably from that of the mid-sixties and early seventies. By and large, the processes of international location and relocation of industries will become increasingly complex and interdependent, so that it will be even more difficult than before to designate specific "industries" as priority candidates for industrial redeployment.

21. In order to identify the scope for future industrial redeployment, it is necessary to start with a perception of its major driving forces which are:

The predominant carriers of industrial redeployment, i.e. transnational corporations

The interaction between innovation, comparative advantage and changes in international location patterns

Government policies for industrial restructuring

Transnational corporations (TNCs)

22. Viewed from the perspective of corporate management, previous rounds of industrial redeployment have centred mainly around four basic goals which comprised: seeking and appropriating cheap labour on a global scale; securing access to strategic sources of energy and raw materials; improving the accessibility of new markets; and devising new modes for the global sharing of the burden created by increasing costs of research and of designing, producing and marketing industrial products and services.

23. Although some of the TNCs original expectations have certainly materialized, depending on the sectors and the firms involved, it is becoming much more difficult and costly to implement and pursue industrial redeployment in an extended period of crisis, especially with the increasing uncertainty concerning government policies. In addition, previous industrial redeployment seems to have produced two negative side effects for corporate management - a qualitative intensification of international trade competition, which in future may become increasingly problematic; and new challenges to the technological dominance of OECD-based firms.

24. A learning process to receive and adapt technology imports is under way in a number of growth regions in developing countries. Engineering skills are being developed which would lower the cost of imported technologies and enable local firms to reap economies of scale that may facilitate entry to new domestic and foreign markets. There has also been some improvement

in the ability of local engineering firms to participate in more complex engineering tasks, particularly within resource-based industries. This could mean an increase in the speed of international transfer of a growing number of technologies, so that some former technological advantages of OECD-based firms would cease to play a crucial role. Notwithstanding the considerable differences in the redeployment process, according to the sectors and product groups involved, there is likely to be accelerated redeployment in the areas of import substitution, agro-business, and complementary services such as banking, insurance and engineering consultancy.

25. With regard to import substitution, there will be significant regional differences in the rate and type of redeployment. In Latin America and some South-East Asian countries, a growing variety of basic and capital goods industries are expected to assume prominence. Complementary services are likely to grow even faster than import substitution activities, due to the general trend of substituting direct foreign investment for service arrangements (e.g. licence, management and technical aid contracts). In the area of agro-business, the export-oriented sector has traditionally been heavily controlled by foreign investment, whereas foreign penetration of the domestic brand food sector dates back to the early 1950s. Today, the real issue is the TNCs' accelerated penetration of the staple foods sector of developing countries.

26. In connection with the downstream processing of mineral resources, TNCs and Governments of developed countries may primarily endeavour to secure resource supplies and therefore redeployment might be resisted. On the other hand, production stages characterized by high energy consumption may be the subject of redeployment. As regards TNC strategies for export-oriented redeployment to developing countries, it is anticipated that there could be declining interest in expanding export capacities in the developing countries as a whole. This could occur as a result of the recent upsurge of neo-protectionist devices in some major OECD countries and also because TNCs might face problems in redirecting export flows of industrial products from affiliates in developing countries to other such countries. The establishment of parallel subsidiary activities in neighbouring developing countries, which characterized the first wave of redeployment during the 1960s, means that the evolving segmented structure of TNC production in developing countries may, in future, prove to be a major obstacle to the growth of manufacturing activities based on expanding South-South exports.

Innovation

27. Research undertaken as part of the UNIDO redeployment programme shows that the interaction between innovation, comparative advantage and changes in international location patterns has been far more complex than originally perceived.^{20/} An illustrative example is provided by the field of new information technology, which covers: the processing of information (currently performed by computers or manual methods); the storage of information (at present, largely non-electronic); and the communication of information (currently by voice, telecommunications and postal services). Information technology is being treated as if it were composed of separate subjects - electronic engineering, communications and computer science. However, recent substitution of micro-electronic devices for discrete components and especially the development of the micro-processor, provide a basis for interlinking and

^{20/} "Restructuring world industry in a period of crisis - the role of innovation. An analysis of recent developments in the semi-conductor industry (UNIDO/IS.285); "The role of technical change and innovation policy" (in preparation); "The impact of electronics on the international economic setting - the case of computer-aided design" (in preparation).

drawing together the processing, storage and communication of information. This concept of "telematics" is bound to affect significantly the scope for rationalizing the use of information, knowledge and, consequently, labour and fixed capital.

28. Major innovations in the field of information technology are already causing dramatic changes in the established patterns of production and consumption and in the social organizational structures. Recent relevant breakthroughs can be observed in the design and production of micro-electronic circuits, in information storage technology, software engineering, computer architecture, computer peripherals and the development of computer languages and new telecommunication techniques (such as package switching, fibre optics and standardization). The interplay of these new technologies is behind such developments as the emergence of distributed data-processing (DDP), the proliferation of new modes of computer-based numerical control (particularly in machine tools manufacture) and the introduction of computer-aided design (CAD), computer-aided manufacturing (CAM), computer-aided testing (CAT) and even computer-integrated management (CIM). Such new technologies make the transition towards automated factories feasible, bringing automation not only to the shop floor, but also to the offices, the design departments, the research laboratories and the conference rooms of top management.

29. The application of micro-electronics is already having a considerable impact on prevailing patterns of industrial redeployment. Established patterns of comparative advantage for industrial production in developing countries based on cheap labour will obviously be increasingly challenged by the progressive automation of industrial activities. The studies, mentioned in paragraph 27 above, have shown that the possible relocation of previously redeployed industrial activities from the developing countries back to the OECD countries is of long-term rather than of immediate concern. The provision of industrial products and services from the developing countries will continue to expand - at least with regard to certain product groups and specific stages of production which are not essential to systems control and which are restricted to a fairly small number of exclusive production sites. However, existing world market oriented production activities, such as offshore chip assembly, are already undergoing major structural changes with the result that the potential benefits for the developing countries (e.g. employment generation, local value-added, forward and backward inter-industrial integration, skill formation, technological spin-offs) might even diminish and become less viable than today. This development could also apply to consumer electronics and to the textile and garments industry. Future analysis should be geared mainly to the study of these changes and their impact on industrialization scenarios in the developing countries.

30. The application of new technologies and the resulting new economics of industrial manufacturing is already having a considerable impact on international location patterns, although the lack of evidence hinders a differentiated analysis in terms of individual products and stages of production. Any projection of possible future trends in international location patterns of industry must be made within a much broader context, encompassing the overall perspectives of future interactions between innovation, international transfer of technology and international restructuring in a period of crisis. In the final analysis, future discussions should centre around the overall trend towards increased concentration of control over strategic assets and the concomitant emergence of new global and regional oligopolies. Intra-OECD competition is a main driving force and gives rise to increased pressures for technological advancement. The interrelations between capital formation, industrial relations and technical change have been undergoing significant changes. The once predominant focus on

work and labour rationalization still continues to play an important role - but to view it as the decisive factor in capital formation and industrial restructuring would be misleading. The rationalization of installed plant and equipment - particularly in terms of energy and raw materials used, machine utilization and product flow speeds - together with attempts to decrease the systems vulnerability of capital accumulation, is gaining considerably in importance. It is in this context that the introduction of new technology, particularly new information technologies based on micro-electronics, can be expected to play a prominent role in the restructuring of world industry.

Government policies for industrial restructuring

Newly emerging forms of government intervention

31. The restructuring of world industrial trade and production is increasingly influenced by government intervention, on both a national and an international scale. World industrial production and trade have become increasingly integrated into global economic circuits and the consequent inter-penetration of national economies has led to a paradoxical situation. On the one hand, the dramatically increased need for a much broader range of selective and coherent government intervention has resulted in the recent emergence of institutions and policy instruments which surpass by far the traditional confines of monetary, fiscal, and trade policies. On the other hand, the scope for devising, implementing and carrying out new industrial re-deployment policies would seem to have been considerably reduced. This crisis of policy instruments and institutions intended to monitor, regulate and if necessary correct the restructuring of world industry is evident both at national and international levels.

32. In the context of national economies, the growing fiscal crisis is severely limiting the scope for countervailing structural policies, such as regional, industrial and technology policies. In addition, in a situation of increasing stagnation and rising unemployment, Governments in practically all countries of the OECD region tend to rely increasingly on the conservation of existing industrial structures at practically any cost rather than proceed with industrial restructuring and redeployment. In other words, government intervention in major OECD countries is subordinated to an increasing degree to the requirements of intensifying world market competition and an increasingly fierce global technology race - as witnessed by the recent proliferation of neo-protectionism and nationalistic industrial policies in practically all major OECD countries.

33. In a situation where conservation of existing structures takes precedence over the restructuring of prevailing modes of industrial production, the scope for entering new rounds of industrial redeployment to the developing countries would seem to be rather limited. In an international context, there is an erosion of the institutional framework for world trade and investment flows which was built up after the Second World War to establish a basic prerequisite for the world-wide provision of resources for industrial production namely, free multilateral trade in goods and free movement of capital at both regional and world-wide levels.

34. Today, amidst a severe world economic crisis calling for increased consultations coupled with more monitoring and regulation of international flows of industrial products, services, capital and technology, the national and international consensus on the organization of government intervention in industrial production and trade is rapidly deteriorating. In a

situation requiring greatly increased supranational and other forms of social control over market forces to withstand the economic crisis, and in which the selectivity and coherence of these controls should be improved in order to guarantee a viable process of industrial re-deployment, the very opposite seems to occur. A powerful movement towards dismantling established legal and institutional frameworks for international trade (General Agreement on Tariffs and Trade) and finance (International Monetary Fund) is complemented by an inability to devise operational concepts for the international flows of technology and manpower.

Adjustment in developed market economy countries

35. The majority of developed market economy countries are undergoing severe economic setbacks, characterized by exceptionally low rates of economic growth and high and rising unemployment. These have coincided with low rates of growth in productivity, combined with pressures to compensate for increased costs of energy and raw material imports by expanding exports of manufactured items. The recession, which has hit entire industries, has tended to aggravate regional disparities within the developed market economies, and has most severely affected those regions on the geographical periphery which lack the resources, production structure and direct access to international markets that would allow them to respond positively to the structural pressures.^{21/}

36. In this period of economic recession and uncertainty the developed market economy countries are confronted with the problem of developing new processes and products in order to maintain international competitiveness and to increase primarily capital goods exports to developing countries. Furthermore, there is the problem of reabsorption of labour and the revitalization of structurally affected regions. In their attempt to adapt to the changing economic environment at a sufficiently rapid pace, such regions are beginning to experience the emergence of internal social tensions and resource constraints.

37. There are indications that Governments of the developed market economy countries are being petitioned to assume increasing responsibilities including: accelerating technology developments; decreasing adjustment problems through direct intervention, including subsidies; and adopting specific trade and co-operation policies as a means of overcoming national rigidities. In this context, it has been said that there are no "doomed" industries in some countries, since government intervention and the application of new technologies aim to ensure their survival. The question of innovation policies and their implications for the restructuring process was examined in a special study.^{22/} In connection with the analyses of technological innovation and structural adjustment, it is important to include an examination of the role of the armaments industry in the policies and actual process of adjustment. The question concerns the extent to which military industries are considered to be and are actually used as a major vehicle for the development of important innovations through direct government support and the directing of research and development to those industries.

Centrally planned economy countries of Europe

38. Adjustment in development priorities together with features of the current and prospective process of structural change in the industries of the European centrally planned economies

^{21/} These issues were dealt with in the Symposium on Industrial Restructuring and Regional Co-operation: The Case of Country Regions, organized jointly with Swedish Government authorities in June 1981; a report is in preparation.

^{22/} "The role of technical change and innovation policy" (in preparation).

were investigated in a series of studies^{23/} and are to be the subject of a research seminar in Budapest, March 1982.

39. Actual growth rates during the period of the previous five-year plan (1976-1980) and targets set for the current plan (1981-1985) indicate the beginning of a period of reduced growth which may cover most of the 1980s. A reassessment has been signalled concerning the structure of industry, which was established on the basis of high consumption of cheap energy and raw materials and an ample supply of manpower. Information available from the 1981-1985 plans of the CMEA countries indicates an endeavour to reduce systematically the raw-material and energy-intensive nature of industrial production and, as far as possible, rely on indigenous rather than imported resources. An increase in the share of value added in total output in almost all branches is another important feature of the development plans of the European CMEA countries. Attempts to obtain higher quality finished products and increased overall productivity generate an increasing impetus to make use of new technologies.

40. While significant restructuring of industry is seen to be crucial, it should be noted that the pace of this restructuring is limited by various constraints. Since there is a large gap between the present structure, which was based on previous - very different - economic parameters, and the conceived optimal structure of the 1980s, substantial adjustment is called for to counterbalance the increased pressures. This adjustment would in turn require considerable investible resources including new technologies. However, in the current period of low growth with strains on the balance-of-payments and high foreign debts, most European CMEA countries will face severe resource constraints. Since a large proportion of new technologies is available chiefly from the advanced market economies, difficulties may arise in acquiring access to the new processes and products required. Moreover, dynamic export growth to OECD countries, which would enable an increase in imports, is not likely to be achieved in the current setting. On the other hand, in this period of international economic difficulties, the CMEA countries may hesitate to opt for increased reliance on trading partners among market economies and developing countries outside the CMEA.

41. The centrally planned economy countries of Europe seem to be aiming at long-term adjustment to the new conditions which are emerging. It is therefore possible that, in the short and medium term, these countries will not increase significantly their division of labour with developing countries through the redeployment of industrial capacities. Rather, the CMEA countries may primarily aim at continuing to secure raw material supplies from developing countries through bilateral agreements.

Policies of developing countries

42. In spite of continued efforts to establish export-processing zones and other incentive schemes aimed at promoting the redeployment of labour-intensive industrial capacities from industrialized countries, there are signs of growing concern among developing countries about pursuing the previous pattern of industrialization and redeployment. First, developing

^{23/} "The industrial division of labour between the European centrally planned economy countries and developing countries" (UNIDO/IS.193); "Structural changes in Hungarian industry and prospects of division of labour with the developing countries" (UNIDO/IS.196); "Structural changes in the Czechoslovakian industry and prospects of international division of labour with developing countries" (ID/WG.357/1); "Structural changes in the Polish industry" (ID/WG.357/2); "Structural changes in the USSR industry and prospects of division of labour with developing countries" (ID/WG.357/3); "Industrial specialization in Council for Mutual Economic Assistance (CMEA) countries. Selected issues" (ID/WG.357/4); "Structural changes in manufacturing industries of the European CMEA area and patterns of trade in manufactures between CMEA countries and developing countries" (ID/WG.357/5); "Salient features of structural changes in European CMEA countries" (ID/WG.357/6).

countries are increasingly aware that foreign export-oriented industries do not necessarily provide an impetus to sustained development: forward and backward linkages with the host country economy are hardly established, skill development is limited, and there seems to be little upgrading of manufacturing to higher levels of domestic value added. Secondly, due to the apparently footloose nature of these industries, there may be pressure for the host country to maintain wages at low levels in order not to endanger the competitiveness of the particular redeployed industrial activity. Thirdly, recent changes in the industrial and trade policies of developed countries, including the introduction of protectionist measures, tend to create uncertainties for developing countries about export prospects in "traditional" industrial activities. Fourthly, there is also growing uncertainty in respect of the impact of new technologies which the advanced countries may introduce in a wide range of industries (including traditionally labour-intensive processes) since such technologies might lead to a reversal of the current comparative advantage of developing countries in a range of industrial activities. The developing countries therefore have reason to doubt the prospective role of traditional, labour-intensive, export-oriented industrial activities as an engine of growth and/or as one phase of development that will develop into a higher phase by market inducement.

43. Whereas current balance-of-payment difficulties force many developing countries to use all possible means to boost manufactured exports, there are clear indications of a long-term striving to change the past pattern of industrialization. The long-term strategies of many developing countries, primarily the more advanced ones, seem to emphasize a gradual increase in the processing of their raw materials and in the introduction of integrated production structures and skill- and technology-intensive production. Such industrial development strategies are obviously constrained by lack of investible resources, know-how, research and development capacities etc., especially since the traditional major agents for resource transfers, i.e. the large international companies, may not have convergent strategies.

44. When the Governments of developing countries seek to develop industry in a way which may not follow established patterns or economic principles, new forms of international co-operation may have to be evolved. It is significant that in the Economic System for Latin America (SELA) the view is emerging that there is a need to pursue more actively various long-term strategies for indigenous industrial development rather than merely react to the structural changes taking place within the developed countries.^{24/} There are indications of disillusionment with the effects of the past industrial development pattern and attempts are being made to evolve more systematically the long-term concepts for development. Similarly, several countries in South-East Asia are increasingly endeavouring to adopt new routes for development by pursuing policies directed towards the systematic upgrading of industrial production. In the oil-producing countries of the Middle East, the systematic development of a high-technology, capital-intensive manufacturing sector has already been pursued over the past few years.

45. In many African countries and in the least developed countries there is an apparent lack of attraction and of absorptive capacities for redeployment of industries from developed countries.^{25/} In a situation of heavy dependence on official development assistance - a large part of which is tied - it is difficult in the current period to assess the prospects and

^{24/} Cf. "Industrial redeployment in the Latin American context", Latin American Economic System, Permanent Secretariat, SP/CL/VII.O/Di No.5 February 18, 1981.

^{25/} Cf. "The least developed countries in the industrial redeployment process" (in preparation).

future direction of industrial development in these countries. One particular category of developing countries - the small island States - may be faced by increasing prospects and challenges in view of possible changes in the International Law of the Sea. A review of the effect of these prospects and challenges on South Pacific island developing countries will be undertaken at a forthcoming meeting in the region, to be held in Suva (Fiji) jointly organised by UNIDO, the German Foundation for International Development, the South-Pacific Bureau for Economic Co-operation and the South Pacific Commission.

IV. CONCLUSIONS

46. Redeployment of industrial capacities from developed to developing countries is likely to continue into the 1980s and 1990s, but it may proceed in different forms, different directions and in a different international environment than the developments of previous decades. Whereas redeployment previously followed a pattern determined by expanding trade, considerations of comparative advantages and a certain convergence of interest of major agents there are clear indications that the process of international location and relocation of industries is becoming more intricate. Parameters for and strategies of major agents are changing and new configurations of national and international decision-making are emerging. The complexity of the interplay between major criteria for redeployment is becoming more accentuated and the intermixture of major determinants will make it more problematic than ever to anticipate industrial redeployment potentials.

47. Besides the effects of relative factor costs, market absorption and other basically economic parameters and corporate strategies, the increasing involvement of Governments in the fields of energy, raw material supply, innovation, international trade and co-operation and long-term industrial policies is assuming growing importance. In a period marked by: low growth and increasing obstacles to adjustment in the developed countries; new attempts by many developing countries to build up integrated industrial structures; new challenges in the field of finance and technology; and general international uncertainty, the previously conceived concepts of an international division of labour and redeployment will need to be revised. Developed and developing countries seem to be aiming at creating nationally "preferred" industrial structures rather than merely accepting market-induced developments. In their search for technological advantages and "niches" of growth, the industrialized and more advanced of the developing countries may face new conflicts of interests and policy rivalries.

48. In such changing overall conditions it will be difficult to predict, enhance and support redeployment of specific "industries" from developed to developing countries. For the international community to follow and facilitate the process of resource transfers and structural changes in industry, in order to accord a greater share of world industrial production to the developing countries, there seems to be a clear need:

To continue the surveillance of the restructuring process, in particular the pertinent policies and programmes of major agents and the possible future impact of technological advances

To assist developing countries (in particular the least developed countries and smaller developing countries) in obtaining insights into international developments and in conceiving strategy options for development and redeployment

To enable the exchange of information on national policies and programmes and to evolve joint concepts for international co-operation.

V. ACTION REQUIRED OF THE BOARD

49. The Industrial Development Board is invited to review the findings and suggestions contained in the present report. In particular, the Board may wish to advise on and endorse the scope, approach and arrangements adopted by UNIDO in its programme on industrial redeployment.

