

INDUSTRIAL COOPERATION AGREEMENTS

Deepak Lal  
University College, London  
June 1977

Prepared for  
The Commonwealth Secretariat  
London

## TABLE OF CONTENTS

	<u>Page</u>
PART I. GENERAL ISSUES	95
1. Background	95
2. Assumptions, objective and rationale for industrial co-operation	96
 PART II. INDIA'S EXPERIENCE IN INDUSTRIAL CO-OPERATION	 103
1. Socialist countries	103
2. Third World countries	107
3. OECD countries	115
4. Joint ventures	118
 PART III. INDUSTRIAL CO-OPERATION AGREEMENTS, TRADE LIBERALISATION AND ADJUSTMENT PROBLEMS - A PROPOSAL	 121
1. Trade liberalisation	121
2. Adjustment problems	123
3. The proposal	128
 Appendix I: References	 135
Appendix II: Indian joint ventures abroad, tables 1-3.	138

## PART I

### GENERAL ISSUES

#### Background

A recurrent theme in the Third World's demand for a new international economic order is their desire for a greater share of the world's industrial capacity to be transferred from the currently industrialised countries to countries in the Third World. The preferred instrument for effecting this transfer is so-called bilateral or multilateral international co-operation agreements.<sup>1</sup> UNIDO is recommended as the forum for negotiating these agreements, but the form such co-operation should take is, as in the Lima Declaration, left rather vague, with the only injunction being that:

"to promote co-operation between developed and developing countries, both should endeavour to disseminate appropriate information about their priority areas for industrial co-operation and the form they would like such co-operation to take" (U.N.p.30).

The Lome Convention signed between the EEC and 46 African, Caribbean and Pacific (ACP) countries in February 1975, included a chapter on industrial co-operation. It sought to promote measures to stimulate the flow of EEC technology, capital and knowhow to the ACP (including the establishment of a Centre for Industrial Co-operation, to disseminate information) and to promote ACP industrial products in Community markets. This part of the Convention has been dismissed by at least one observer as "being only an exercise in wishful thinking without operational significance" (Wall,1976,p.8).

---

1. See the Lima Declaration (UNIDO, 1975, pp.5,15,17, and the Resolution of the UN's Seventh Special Session (UN,1975, p.30).

The EEC itself seems to see the role of the industrial co-operation agreement embodied in the Lome convention as, at most, the provision of information and the easing of the way for the normal commercial functioning of businessmen. (See EEC, 1975, pp.7-8). It is a mildly promotional role with limited operational significance.

The smoothing of relations between governments and businessmen of different countries was also the major form of co-operation envisaged by the Commonwealth Group of Experts in their first report (See Commonwealth Sect., 1975, p.39). In their further report however, whilst enlarging on this theme they, more importantly, noted the essential link between industrial co-operation and trade policy, and emphasised the importance of removing non-tariff barriers to trade in manufactures from developing countries as an important aspect of such co-operation (Commonwealth Sect., 1976, pp.27-29). They also made the important observation that:

"the centrally planned economies exercise closer control over their markets and this gives them, in some respects, a relative advantage to assist the developing countries through allocating some of their industrial activities to these countries and at the same time assure them a market for their output". (Com. Sect., 1976, p.30).

## 2. Assumptions, objective and rationale for industrial co-operation

The stated objective which industrial co-operation agreements are expected to serve is thus the redeployment of industrial capacity between developed and developing countries, but as these agreements are expected to be bilateral, they are presumably meant to be discriminatory.

In order to derive an economic rationale for such bilateral, discriminatory, industrial co-operation agreements, it is necessary to pinpoint the implicit assumptions underlying the developing countries' demands regarding the components of social welfare in these (and in developed) countries. These assumptions, as we seek to show in this section, are at variance with those normally made in conventional economic theory, which presents a strong case for dismissing the LDC demands as being irrational, as they do not subserve their (conventionally defined) self-interest. If, however, in practice the LDCs are nevertheless going to pursue what might be considered to be 'irrational' objectives in any case, traditional theory can still yield useful 'second-best' rules which may provide a rationale for some types of industrial co-operation agreements.

There are three implicit assumptions about the components of the social welfare function of different countries, and of their economic environment, in much LDC thinking. The first is that industrialisation is held to be desirable in itself, and hence the level of industrialisation is taken to yield directly social utility.<sup>1</sup> The second is a strong presumption that direct government intervention in trade and industry is unavoidable, and moreover that the more impersonal allocative mechanisms of the market are unlikely to yield socially desirable results.<sup>2</sup> Third, that domestic industrial policies in both developed and developing countries have important trade policy implications and hence are important determinants of the locational distribution of world industry.<sup>3</sup>

---

1. See the Lima Declaration (UNIDO, 1975, p.5).

2. Thus the Lima Declaration also states: "that the unrestricted play of market forces is not the most suitable means of promoting industrialisation on a world scale, nor of achieving effective international co-operation in the field of industry" (op.cit, p.7).

3. See Commonwealth Sect. (1976) pp. 27, 29.

Traditional economic theory would take exception to the first two of these assumptions, whilst recognising the third as a sad fact of current economic life. For conventional economic theory economic welfare is derived from the satisfaction of individual consumer's wants in terms of goods and services (with suitable account being taken of any socially non-optimal inequalities in the distribution of income and consumption). Within such a framework, it would be irrational to promote industrialisation per se, if this meant that, as a result the availabilities of goods and services for consumption and investment in the economy would be lower than otherwise.

Moreover, as the modern theory of trade and welfare has shown, there is a straightforward case for a 'modified free trade position' (Meade, 1951), namely that in order to maximise welfare in any country, free trade is optimal except for the so-called 'optimum tariff' argument. Most other arguments for trade intervention are at best 'second-best' arguments, as they are cures for various domestic distortions in the working of the price mechanism which require domestic instruments (e.g. domestic taxes and subsidies) for their ideal treatment. (See Bhagwati and Ramaswami (1963), Johnson (1965a), Corden (1974)). It follows, therefore, that with the deployment of these ideal domestic taxes and subsidies the level and composition of industrial output of different countries, with free trade, would reflect their comparative advantage and would be optimal, in the sense that any attempt to raise or lower the level or change the composition of industrial output of any (or all) country(ies) would necessarily entail a lowering of the actual welfare of that (or all) country(ies). In such a world there would clearly be no place for industrial co-operation, or for any attempts by governments to alter the extant pattern of production and trade.

Furthermore, even in the absence of universal free trade, conventional theory provides a strong case for a unilateral reduction in a single country's own protective devices, as this would raise the conventionally defined level of economic welfare of its citizens. Hence, even in a tariff-ridden world, there would not seem to be any place within conventional theory for industrial co-operation agreements. To obtain the optimal location of world industrial output, universal free trade should be sought. Failing this, any country wishing to maximise its own feasible level of economic welfare should adopt unilateral free trade.

Unfortunately for the conventionally (and in my view correctly) defined economic welfare of the world's citizens, their governments seem strangely reluctant to follow these prescriptions, largely because of their non-economic preference for industrial production per se, which the Lima Declaration now enshrines as being a justifiable part of a country's own social welfare function. This preference though undoubtedly irrational from an economist's viewpoint is nevertheless a fact of life with which we must live. Neither is it confined to developing countries, for developed countries too, seem to suffer from the industrialisation fetish, as witness the current worries about 'de-industrialisation' in the UK; moreover, as a number of economists have noted (Johnson (1965), Cooper and Massell (1965), Bhagwati (1968)), many aspects of international economic policy only make sense if this non-economic preference for industrialisation as a component

of most countries' social welfare function is explicitly recognised.<sup>1</sup>

For our purposes, the recognition of this non-economic preference for industrialisation of most governments has two implications. First, it will now be necessary to envisage co-operation amongst countries to obtain a satisfactory division of world industrial output, which all countries value for its own sake. Secondly, following from the first, we need to find ways (through international bargaining) in which this preference for industrialisation can be indulged with the least trade diversion (from the equilibrium that would exist in a free-trade world) and hence the lowest loss in terms of real national income. It is in these 'second best' terms some justification can be provided for industrial co-operation agreements.

Much of the discussion of preferential arrangements (which are also supposed to be subsumed under industrial co-operation agreements) in the past, has been in terms of fully fledged customs unions. However, starting from the trade and industrial production levels amongst countries in a tariff ridden world, the twin objectives of maintaining or increasing the level of industrial production in each of the countries concerned, together with that

---

1. Thus, for instance, reciprocity in tariff reductions only makes sense in the context of the non-economic preference for industrialisation: "in the classical analysis it is lower cost satisfaction of private consumer wants that is involved, and this could be achieved without the co-operation of the other country through unilateral tariff reduction; whereas in the preference for industrial production model it is lower cost satisfaction of the demand for collective consumption of industrial production that is involved, and this can only be achieved through the co-operation (via bargaining) of the other country" (Johnson (1965) p.120). Similarly, the case for customs unions and other preferential forms of regional integration also only make sense if it is recognised that given their preference for industrialisation, unilateral MFN tariff cuts, which involved no trade diversion as compared with a preferential trading system, may not be preferred as they may involve a reduction in industrialisation. Hence the trade diversion of a customs union may be deemed to be socially desirable if it involves no change or an increase in the country's industrial production (see Cooper and Massell (1965), Johnson (1965)). This also explains why contrary to the predictions of economic theory, most developing countries exhibit a preference for trade diverting regional integration schemes. (See Bhagwati (1968)).



of raising the actual level of real income in the countries concerned, can also be subserved by sectoral bilateral (or multilateral) tariff reductions in the countries concerned.<sup>1</sup>

It follows, therefore, that for any given preference for industrial production in two countries, and hence their existing levels of tariff protected industrial output, industrial co-operation agreements could be devised which involve the swapping of relatively efficient for inefficient industries with the partner country.<sup>2</sup> Moreover, given the preference

- 
1. Caves (1974) explicitly notes the similarities between customs unions and more limited preferential trading arrangements. "Suppose that  $m$  entities barter  $n$  commodities among themselves, and that some subsets of entities form clubs and agree to trade some set of commodities among themselves at price ratios which differ from those prevailing between club members and the remaining traders. The general equilibrium theory of preferential trading (Kemp (1969), Vanek (1965)) deals with arrangements taking this form. A club that we call a customs union covers all  $n$  commodities and normally commits its members to internal free trade... a preferential trading area could clearly involve less than the full  $n$  traded commodities. or less than complete unification of internal opportunity cost ratios among club members, or both" (p.18).
  2. That this will raise the level of economic welfare in the two countries follows directly from what Kemp and Wan (1976) have termed the basic proposition of customs union theory, namely: "Consider any competitive world trading equilibrium with any number of countries and commodities, and with no restrictions whatever on the tariffs and other commodity taxes of individual countries, and with costs of transport fully recognised. Now let any subset of countries form a customs union. Then there exists a common tariff vector and a system of lump-sum compensatory payments, involving only members of the union, such that there is an associated tariff-ridden competitive equilibrium in which each individual, whether a member of the union or not, is not worse off than before the formation of the union" (p.95). The argument carries over if we substitute for a "subset of countries form a customs union", the phrase "subset of industries in some countries form a trading club".

for industrialisation. it may be more difficult to negotiate customs unions, than these more piecemeal, sectoral bilateral agreements. In Part III of this paper we present a proposal for industrial co-operation agreements which relies on these basic ideas.

However, in order to assess the more amorphous and essentially modest role that such agreements seem to have been assigned in past international discussions and in the Lome convention, we examine the record of India's experience with such bilateral agreements in the past in Part II. This conventional rôle is that of smoothing the path of normal commercial transactions between the participating countries. India has placed some emphasis on this role of bilateral government agreements, and hence, in the next part of the paper, we seek to answer the question: "given the preferences for industrial production of India and its various 'partners', did the bilateral government negotiations on industrial co-operation yield any results, in the sense of leading to a higher level and/or more efficient composition of industrial production than would have taken place in their absence?"

## PART II: INDIA'S EXPERIENCE IN INDUSTRIAL CO-OPERATION .

India's experience in industrial co-operation is best studied in terms of broad groups of countries, namely, the Socialist countries of Eastern Europe and the Soviet Union, the OECD countries, and other Third World or developing countries. In practice, India's objectives in the area of industrial co-operation are part of its trade policy, as is evidenced by the administrative machinery for its implementation, which is located in the Ministry of Commerce which deals in general with India's foreign trade. The Ministry of Commerce is also responsible for overseeing, monitoring and sanctioning the major practical form of industrial co-operation in the form of the participation of Indian firms (chiefly private) in joint overseas industrial ventures. In this part of the paper therefore, we will briefly outline India's experience at the official bilateral level in negotiating industrial co-operation agreements with the three broad groupings of countries - the practical as compared with the diplomatic outcome of these negotiations and thus the possible utility of this type of government initiative. We conclude this part with a brief discussion of the dimensions of Indian joint ventures abroad and whether bilateral government accords have had any utility in furthering overseas Indian investment.

### 1. Socialist countries

Prima facie, bilateral government negotiations on industrial co-operation would be expected to yield the highest returns in dealings with the centrally planned economies of the Soviet Union and Eastern Europe, as all industrial production in such economies is in the public sector and foreign trade is normally conducted by state trading organisations on the

basis of bilateral agreements. Any attempt to shift the location of industrial production on lines of comparative advantage between India and these countries must necessarily involve government decisions on these issues in the relevant socialist country. Moreover, there has been a rapid growth in India's trade with the socialist bloc, with bilateral trade growing at the rate of 11 per cent per annum between 1960-61 and 1972-73, and their share of India's foreign trade more than trebling over this period. In keeping with the overall diversification of India's export trade, the share of manufactures in Indian exports to socialist countries rose from 15 per cent in 1960-61 to about 40 per cent in 1972-73, but despite this - "the socialist countries absorbed a relatively lower proportion of manufactures in comparison with the rest of the world" (Nayyar, 1975, p.282).

It has been hoped periodically by both sides (particularly in Indo-Soviet negotiations) that there would be more direct industrial production co-operation, with production capacities in the respective countries earmarked for the partner market. As a significant part of the Indian heavy industry capacity has been built to Russian design the Indians have hoped that they might be able to use part of this capacity (which is surplus to their own needs) to provide heavy industry products for the Soviet plans. At the moment these ideas for production co-operation are still at the stage of preliminary discussions, and there have been no firm commitments as yet except for some joint ventures in third countries. Thus for Soviet aided steel mills in Cuba and Turkey, the Soviets will supply various components of steel mill machinery to the Soviet built plant of Bharat Heavy Engineering in India, which will then produce and export the completed steel plant. India will also supply electrolysed buckets to Soviet aided projects in Cuba and Bulgaria and heavy cranes to others in Cuba. A few

East European countries have shown an interest in setting up joint ventures with Indian private industry in third countries: the Poles have expressed an interest in joint ventures for producing vodka and ham (from Indian pigs), the GDR in canning pineapples and oranges, and the Czechs in heavy engineering products.

The areas in which long term industrial production co-operation is being considered are mainly with the Soviet Union. One is cotton textiles, with the USSR supplying the cotton which India would convert into textiles and garments for sale in the Soviet Union; another is in the production of castor oil; a third is machine tools, with the USSR and India specialising in different lines and supplying each other's needs from their respective lines of production; a fourth is in some resource intensive industries with, for example, India supplying alumina for the USSR to convert into aluminium for her own and India's needs.

It is the Indians who appear, on the whole, to be reluctant to tie themselves too closely through such direct long term production agreements with socialist countries for a number of reasons. First, they fear that such agreements might entail their plants becoming redundant if the East European demand for which they would be set up diminished in the future. Secondly, they are also deeply committed to self-sufficiency and do not seem to be willing to give up certain lines of production and become dependent upon the Soviets through such production co-operation. This can be illustrated by the case of leather garments and haberdashery. Russia and the East European countries are very keen to enter into some sort of long term agreement which would tie up Indian supplies of leather and leather products for their own markets, because there is expected to be a long-run

world shortage of hides and skins. The Soviets suggested that they would supply a tanning plant and other machinery required to produce leather goods to Soviet specifications. The Indians have been reluctant to accept this scheme as they do not think that the Soviet designs of both the plants and products could be viable, except for sales to the Soviet Union. There is thus the danger that if the USSR retracts on its commitment at some future date the Indians would be lumbered with an uneconomic plant.

The same problem of design and specification also bedevils the possibilities of production co-operation in many engineering goods. For some engineering goods the Soviets are interested in production co-operation, because the Indian products embody Western technology. However, for some of these Indian goods based on foreign technology there are export restrictions in the Indian foreign collaboration agreements, which prevent the Indian firms from exporting these Western designed goods to the USSR. At the same time the Indians are suspicious of adopting Russian designs and specifications because they consider these to be inferior to Western or indigenous ones.

Underlying this Indian reluctance to be too closely tied to the economies of the socialist bloc by meshing together their respective industrial structures, on the lines of their comparative advantage, is clearly the fear that by doing so they are likely to be giving hostages to fortune. But, it may be asked: is not any act of investment, which means committing current resources into specific forms of capital goods, for use in meeting future, and hence uncertain, world (or home) demand, equally likely to be a hostage to fortune? The major difference lies in the extra dimension of uncertainty that is introduced by tying one's economic future to possible future political

action. For the very reason that makes bilateral government negotiation for industrial co-operation meaningful in the case of the socialist countries also increases its risks for a country such as India. Where all economic decision-making is politically centralised, whilst government directives can ensure that the centralised commands to institute production co-operation are in fact carried out, there is, however, also the danger that at some later stage for political reasons the co-operation agreement may be abrogated. Basing one's industrial structure on comparative advantage in a multilateral trading framework, where purchases and sales approximate closer to the arms-length dealings of atomistic markets, rather than on that with a planned economy whose sales and purchase decisions are centralised and may serve political ends, could therefore minimise some of the risks inherent in international specialisation. This is not to deny that political factors may also be of importance in the trade policies of various non-socialist countries. But the essential difference is that the risks of unilateral retaliation for essentially political reasons are likely to be smaller.

## 2. Third World Countries

As in many developing Third World countries too much of the industrial sector is either in the public sector or else directly controlled by the government, we would again expect that bilateral negotiations between governments could lead to meaningful industrial co-operation, though as in the case of the Soviet bloc, there would be the danger that political factors would impinge both upon the creation and maintenance of such co-operation, thereby making any resultant (purely bilateral) interdependence that much more risky than a more multilateral interdependence, say through the possibly utopian ideal of universal free trade.

India's attempts at industrial co-operation with Third World countries have consisted of two major elements, both of which can be looked upon as part of its general desire to improve its trading position. The first, and quantitatively more important has been its recent policy of allowing joint ventures overseas by Indian private firms, against the export of Indian machinery or know-how. We discuss these in greater detail in section (4) below.

The second is the result of the large rise in oil prices following the Yom Kippur war, which left India as one of the 'most seriously affected nations' in UN terminology. As part of its trade strategy, to meet the gaping balance of payments deficit that ensued, India attempted to negotiate various industrial co-operation agreements, whose chief element would be to combine the financial resources of the oil-rich countries with India's technical skills and natural resources. As much of the economic decision-making in the OPEC countries was highly centralised, bilateral government negotiations were naturally the appropriate means to facilitate this marriage of OPEC finance and Indian technology and natural resources. The main fora for the discussions were various high-level joint economic commissions that India set up with various OPEC countries and which were modelled on the Indo-Soviet joint commission which had been functioning for some time, and which also set the pattern for the recent government negotiations with various OECD countries.

As most hope was placed on the outcome of bilateral government negotiations with Iran, we outline the outcome (till end of 1976) of the deliberations and negotiations conducted around the Indo-Iranian joint Commission, below. This should provide an important illustration of the



prospects for, and limitations of, such industrial co-operation with other Third World (and in particular OPEC) countries.

In early 1974, largely as a result of political initiatives at the highest levels in India, the Kudremukh project was launched. This involved Iranian finance for the extraction of iron ore, which could then be shipped in slurry form from the port of Mangalore (whose extension was part of the project), to a pelletisation plant in Iran. The ore would be mined from a mountain in Kudremukh in Mysore. This iron ore project had been on the shelf of potential iron ore projects of the Indian planning commission, but had not been implemented because it was considered to be marginal as compared with other potential iron-ore projects. In a preliminary investment appraisal that was done of the project in the Planning Commission, it appeared that the project would not be viable, in terms of yielding India a social rate of return of at least 8 per cent, if the iron ore were priced at existing and likely future world prices. The negotiations therefore turned on the terms on which India would sell the iron ore to Iran. By the time the Indo-Iranian Joint Commission's Committee on Industry met in October 1975, the two components of the Kudremukh project had been finalised: (a) a loan agreement with Iran, which was to provide the complete capital costs of the project and (b) a purchase contract between the Steel Authority of India Ltd. and the National Iranian Steel Company for the sale of the iron ore at a price which was higher than the world price. This has probably led to a positive social rate of return above an 8 per cent accounting rate of interest for India. It is however doubtful whether the social return to Iran is as high as it could have been on another alternative project in India or from purchasing iron ore from elsewhere at the world price. To this extent

it would be plausible to argue, that without the political nature of the deal and the resultant involvement of the two governments at a very high level in its negotiation, this project would not have borne fruit.

Various other measures of industrial co-operation were also mooted at the Joint Commission's meeting in 1975. One was the possibility of Iranian development (with the provision of financial credits) of Indian bauxite to be used in the expansion of the Iranian aluminium industry. The two parties "agreed to constitute a team of experts to study the commercial and other terms for the immediate requirements and to investigate the technical and economic aspects of co-operation in respect of likely additional requirements". The Iranians "agreed in principle to extend to India a credit for implementation of the projects to be agreed upon, on terms and conditions mutually agreeable to both parties".

The second was the possibility of Iranian finance for two pulp and paper mills to be set up in Cachar and Nowgong in Assam, India. The Iranians had agreed earlier, in principle, to co-operate with India in setting up these two mills. At the meeting in October 1975, the Iranians said they were carrying out a study to prepare a master plan for the pulp and paper industry for Iran and after it had been completed negotiations could begin on possible Indo-Iranian co-operation in this area, on the basis of the Iranian requirements to be determined in the master plan.

The third area in which co-operation was mooted was more general. "In the context of the possibilities of utilising existing capacities and/or augmenting these capacities in certain industries in India with financial and other inputs from Iran with a view to meeting Iran's requirements",

the Committee recommended that a team should come from Iran to India in the near future to visit various factories in India to see if there were any concrete possibilities in this area of co-operation.

Finally "the Committee reiterated the desirability of expanding mutual co-operation in the area of providing consultancy services in Iran, India and third countries".

The deliberations of the Committee on Industry were followed by the signing of a protocol at the 5th session of the Indo-Iranian Joint Commission in November 1975. In the areas discussed by the Committee on Industry and noted above, the only additions were in the specification of one other condition regarding the proposed aluminium venture, and the possibilities of co-operation in the establishment of a fertiliser plant in India. On the aluminium project "it was agreed that because economies of scale are an important factor in the satisfactory implementation of the scheme, the two sides would co-operate in the selection of a partner from a third country with established markets for aluminium at its disposal in order that production beyond the requirements of Iran and India would be assured of outlets in third markets".

The protocol also suggested areas of co-operation in other areas which have an industrial content. It noted with satisfaction the establishment of the Irano-Hind Shipping Company, and agreed to give it the required support to ensure "its adequate growth and success". It also noted that the preliminary survey for a new double electrified line in Iran had been entrusted to Rail India, and agreed that, given the vast development programme of the

Iranian railways, the two countries should explore further possibilities of co-operation in this field. The Indians reiterated their "readiness to supply railway equipment on competitive prices and delivery terms to Iran".

In the field of trade, the protocol stated that the performance in respect of the long term contracts for the supply from India to Iran of sugar, cement and steel rails had been satisfactory, and hoped this area of co-operation would continue. It identified the commodities of special export interest to Iran as machine tools, lubricants, insecticides, sulphur, ammonia, sulphuric acid and plastic goods, and those of special export interest to India as billets, structurals, railway accessories, meat, tyres, commercial vehicles and agricultural machinery.

Thus it would appear that the Indo-Iranian Joint Commission had been successful in promoting a number of co-operative industrial ventures. These hopes, however, were to be belied. It soon became apparent that the Iranians were really not interested in co-operating on the paper and pulp projects. They seemed to be much more interested in obtaining Indian pulp, than in the establishment of Nowgong and Cachar. The Indians soon got the message, and in late 1976, the Indians decided to go ahead with these projects on their own.

On the proposed aluminium project (though till after the visit of the Iranian prime minister to India in May 1976 the proposal was still alive), it increasingly became clear to the Indians, that the Iranians were not interested in the project, an impression which was confirmed when it appeared that the Iranians were looking elsewhere (reportedly to Soviet assistance in developing their own natural resources in North West Iran) to meet the requirements of alumina for their proposed aluminium plant.

The Indians also found that the financial offer made by the Iranians for the establishment of a fertiliser factory in India was not very attractive, and so decided not to pursue that proposal any further. The proposed co-operation in the field of railway equipment also fell by the wayside when the Iranians signed a technical collaboration agreement with the Austrians for the manufacture of railway wagons, and hence the Indian proposal in this area became redundant. Neither have the Iranians been more forthcoming in the proposed areas of production co-operation between the two countries, so that it would be fair to state that in the industrial field the sole area of co-operation between the two countries remains the Kudremukh iron-ore project. It is also probably the case that without direct government negotiations this project would not have been set up. It is also a project which the Iranians seemed to be keen to set up, at the time it was mooted, largely for the political reason of trying to mitigate the effects of the oil price rise of 1973 on the Indian economy. Even if this were the objective, it is arguable whether this was the ideal way for India to receive some transfer of resources from Iran. There were (even for iron ore) superior projects available for development.

The Indian experience in negotiating a greater degree of industrial co-operation than would have taken place in the absence of government intervention, with Iran, does not therefore seem to be very encouraging for proponents of industrial co-operation agreements. This does not imply that when public sector organisations in two countries are dealing with each other, some form of government involvement is not unavoidable and, as in the case of Kudremukh, could lead to projects which would not otherwise have been set up being established. It is arguable, however, whether this sort of 'additionality', based as it is on political factors, is necessarily

in the interests of either of the two countries. From India's viewpoint the judgment turns on whether or not the Iranian 'aid' would have been available in any case, or whether the funds were in effect 'tied' to the Kudremukh project. There can be no doubt, however, that India would have been better served if it could have chosen a project (even in the same sector) with a higher social rate of return to itself for Iranian financing.

Amongst other OPEC countries, the only one which has shown any marked interest in Indian industrial products, technology and know-how is Saudi Arabia. Recently, Bharat Heavy Electricals (a public sector undertaking) has won a contract for building a 50MW power station and the laying of a 180 km. high tension transmission line in Saudi Arabia, whilst the Steel Authority of India is currently involved in talks for setting up a steel plant. However, in both cases it appears that the projects have been (or will be) offered to Indian firms not because of any bilateral government negotiations in the form of industrial co-operation agreements, but as the result of normal commercial transactions, in which the Indian bids happen to be lower than that of their competitors. Thus, for the electricity project, as the Saudi Minister for Industry and Electricity stated, the Saudis gave the project to BHEL after rejecting Western and Japanese bids because they were too high. Whilst in recent talks on "Indo-Saudi industrial co-operation, it was urged that the Indian government bid for global tenders for Saudi Arabia's industrialisation programme. The first will be for a large sewerage plant" (Financial Times, March 1st 1977). The role of bilateral government negotiations therefore in setting up Indian industrial projects in Saudi Arabia, as in many other Third World countries, is likely to be at best promotional, the actual deals being determined on conventional commercial criteria. Industrial co-operation agreements have

therefore had little effect in creating any additional advantages for Indian industrial enterprises, in general, with most Third World countries, and where they have had some influence, as in the case of Kudremukh, their basis has been essentially political, and their economic advantage to India is by no means clear cut.

### 3. OECD Countries

In contrast with both the socialist countries of Eastern Europe, and many countries in the Third World, the essential feature of these so-called 'free market' economies is the relatively decentralised nature of their economic decision making. Thus whereas in the other two groups of countries, to the extent the government itself undertakes an entrepreneurial role in industrial investment and production, there is some basis for the view that negotiations with (and between governments) may be required for facilitating both investment projects and trade in industrial products, this would by no means be necessary or in most cases even practical in establishing industrial co-operation between India (or other developing countries) and the OECD countries. This is essentially because the government cannot centrally direct private firms, who are the ultimate arbiters in these countries, to undertake or accept industrial investment and/or industrial products from Third World countries. The most that governments can do in these countries is, by changing various indirect instruments of public policy like taxes, subsidies and tariffs, to induce certain desired changes by altering the relative private profitabilities of different lines of action. Whilst this mitigates to some extent against the possibilities of political retaliation which might accompany production and industrial co-operation agreements

with socialist and some Third World countries, it also means that the role of bilateral government negotiations to foster such co-operation, as traditionally conceived, is likely to be fairly limited.

This judgment is borne out by India's attempts at industrial co-operation with these countries. The fora for negotiating such bilateral co-operation with these countries are joint commissions which have been set up with UK, France, Italy, the Netherlands, USA and Japan. The EEC as a whole has also entered into a Commercial Co-operation Agreement (CCA) with India, but this is largely concerned with trade. Its main practical outcome for India has been to bind the tariff suspensions "already applied autonomously in respect of some products" (mainly primary products like tea, pepper, nutmeg and mace, leather) of export interest to India. There is however, one article (9(b)) of the CCA which instructs the joint Indo-EEC commission (set up under the CCA) "to study and devise ways and means of overcoming trade barriers and in particular existing non-tariff and quasi-tariff barriers in the various sectors of trade, taking into account the relevant work undertaken in this field by the international organisations concerned", which can (as discussed in the next part of this paper) be used as the basis for devising some meaningful industrial co-operation agreements between the EEC and India.

The format and content of the various bilateral economic co-operation agreements signed with various OECD countries is fairly similar. In Article 1 (c) of the Indo-UK agreement, the Committee is instructed to "examine possibilities for joint manufacturing programmes between industrial groups in both countries with a view to taking maximum advantage of relative production costs in the two countries in the manufacture of various components and



finished goods". No criteria are, however, laid down for determining how such joint manufacturing programmes can be implemented, and at best the role of the Commission in practice, has turned out to be of providing one more fora for officials to meet and vent pious hopes. The actual co-operation will have to be between firms in the two countries, and apart from the role of midwife in bringing firms in the two countries who (in the unlikely circumstance) did not know each other, it is these relative commercial interests which will determine whether or not the joint manufacturing programmes envisaged by the Commission materialise.

Some co-operation between Indian and EEC firms has taken place, though whether this was the result of, or despite the existence of bilateral economic commissions is debatable. Thus a number of UK firms have shown an interest in joint ventures with Indian firms in third countries (mainly in the Middle East) partly because of the Indian success in winning Mid-East contracts in many fields independently; partly because a number of UK firms had entered into fixed price contracts for projects in the Mid-East, which became unprofitable for them with the higher rate of inflation in the UK, and for whose fulfilment they looked to Indian firms (e.g. Kirloskar for electrical and other engines), whose costs were lower than those in the UK; and partly because collaboration with Indian firms in the Middle East can provide them with management and other supervisory and skilled staff at lower cost than that of expatriate UK staff. For the Indians the advantages of such collaboration are essentially in providing them with the name and prestige which can be important in winning investment contracts. That this, however, cannot be adduced to be the effects of any industrial co-operation agreement that India and the UK may have signed is borne out by the various other European countries, with whom India does not have any such agreements, whose firms

are also devising collaboration agreements with Indian firms in third countries. For instance an Indian and a Swiss firm have reached agreement recently whereby the Swiss firm supplies the brand name and the Indian the actual product. This type of collaboration can be important for many products where the buyer wants to be assured of quality control, and hence the brand name matters. However, the role that bilateral government negotiations can play in arranging such essentially commercial deals seems, at best, to be dubious.

#### 4. Joint Ventures

Since the mid-sixties, various Indian firms have been allowed by the Indian government to set up joint industrial ventures abroad. The Indian equity is to be acquired solely against the value of Indian machinery and technical know-how supplied to the venture from India. "The machinery exported should be of Indian make; no second-hand or reconditioned machinery (is) allowed for export against Indian investment".

By the end of March 1976, 239 joint venture applications had been sanctioned by the government. They were spread over 43 countries. By that date 103 or 43 per cent of the proposed joint ventures had failed to fructify and the proposals had been withdrawn. Of the remainder, 67 or 28 per cent of those sanctioned had led to joint ventures which were in production, and 69 or 29 per cent were in the process of implementation. Table 1 of Appendix II provides a breakdown of the agreements by country, in terms of sanctions, those in production, those being implemented and those where the proposal had been withdrawn; whilst Table 2 ranks countries in the order of those with the highest number of Indian

joint ventures currently in production, and those where they are currently under implementation; whilst Table 3, provides a breakdown by country of the products for which joint ventures have been sanctioned, implemented and withdrawn.

From Table 2 it is apparent that Malaysia accounts for the bulk of Indian joint industrial ventures and that in general the agreements which have borne fruit have been in South East Asia. Amongst the OECD countries, only the USA and UK are countries with Indian joint ventures, but from Table 3, it will be apparent that unlike Indian joint ventures in other Third World countries which cover a whole range of industrial products, those in the USA and UK are mainly for restaurants (hardly an industrial venture!), with the exception of a project for magnet wires (which has been approved in principle) in the USA, and a plant of Birla Brothers for producing asbestos cement products, which has been in production in the UK since 1967.

What role have government negotiations played in promoting these joint ventures by Indian businessmen abroad? The answer seems to be: virtually none. All the joint ventures have been initiated by the businessmen themselves and the government only comes in at the latest stage, in determining whether or not to allow a particular joint venture which an Indian business has negotiated. The government's role is thus regulatory rather than promotional. Indian businessmen are fairly keen to set up such joint overseas ventures, as it gives them some extra flexibility in their operations, by enabling them to escape the full brunt of the domestic controls on investment and production that till fairly recently were a virtual stranglehold on the operations of industry in India. In particular the so-called large

business houses were restricted from expanding into a whole host of domestic industries in India as a result of the government's policy of trying to reduce concentration in Indian industry. They have, therefore, found it attractive to set up operations abroad and thus diversify their investments, a course which was increasingly not open to them within India.

Most recently, a consortium of Indian public and private sector firms has been formed to bid for contracts for the large Saudi Arabian development plan.<sup>1</sup> These are chiefly engineering firms and they hope to receive turnkey contracts for rail development, electrification projects, construction projects like port expansion, housing, schools and hospitals, development of infrastructural facilities and establishment of industrial estates. They are also hoping to obtain sub-contracts from Western companies (particularly British companies with consultancy agreements in Saudi Arabia) for a number of industrial and infrastructural projects. The role of bilateral government negotiations in furthering such industrial co-operation has, however, been minimal, for the Saudis are interested in giving these contracts to Indian firms primarily because Indian bids and delivery dates are highly competitive for many projects and commodities with those from various OECD countries.

---

1 The firms are, public sector: Rail India Technical and Economic Services, and Bharat Heavy Electricals (which has already won the electrification contract discussed above); private sector: Crompton Greaves, EMC Steel, Garden Reach Ship-builders and Engineers, India Tube Company, KG Khosla Compressors, Larsen and Toubro and Stewarts and Lloyds of India.

### PART III: INDUSTRIAL CO-OPERATION AGREEMENTS, TRADE LIBERALISATION AND ADJUSTMENT PROBLEMS - A PROPOSAL

In the first part of this paper we have argued that in the 'second best' situation where most of the countries of the world exhibit a non-economic preference for industrial production, industrial co-operation agreements which lead to the swapping of efficient for inefficient industrial production amongst two or more countries, could lead to a rise in (conventionally defined) economic welfare. Moreover, given the non-economic objective involved, and the differing degree of preferences for industrial production amongst countries, multilateral trade liberalisation, based on the MFN principle, will stop well short of the attainable 'second-best' welfare maximum, because the requisite unilateral or multilateral tariff cuts (implicit or explicit) on an MFN basis will not be feasible. For, whilst subserving the objective of raising conventional economic welfare, they are likely, at some stage, to be inimical to the satisfaction of the non-economic preference for industrial production. Preferential and hence discriminatory arrangements amongst two or more countries may, therefore, yield higher levels of actual economic welfare in the countries concerned than relying on the feasible extent of MFN trade liberalisation. This is particularly important in the current state of the commercial policies of developed towards developing countries.

#### 1. Trade Liberalisation

It is now widely recognised that in order to indulge in their preference for industrialisation it is better that developing countries do this via the development of their manufacturing export industries than through indiscriminate

import-substitution (see Little-Scitovsky-Scott, 1970); for policies which emphasise export promotion as much as import substitution, in order to raise the level of domestic industrial output, will entail less damage (for any given desired level of industrial production) to the conventional economic welfare of these countries, than policies which emphasise import substitution alone. Industrial development of this more balanced sort however, requires that the nascent manufactured exports of developing countries should have relatively free access to the markets of developed countries.

One of the more ominous trends in the recent commercial relations between the developed countries and the relatively more industrialized developing countries is the emergence of various non-tariff barriers to imports of manufactures from developing countries. As a result of various rounds of tariff reductions amongst OECD countries under the auspices of various GATT negotiating rounds, there has been a steady erosion in the nominal protection provided by the formal tariff structures of the developed countries. Hence, in order to protect their declining industries, developed countries have increasingly relied on various non-tariff barriers, particularly in the form of (misnamed) voluntary export restrictions (VERs), negotiated with the various developing countries. The GATT rules, under Article XIX, allow particular countries an 'escape clause' to institute protection from imports on alleged grounds of 'market disruption', but in practice declining industries in developed countries have found the GATT criteria for invoking the 'escape clause' too restrictive, and have succeeded in exerting pressure on their governments to bypass GATT altogether in seeking restrictions on imports for cases where 'market disruption' is defined much more weakly than under GATT. Bhagwati (1976), provides details of US and Canadian

escape clause actions under GATT, as well as on the alternative route of seeking VERs. In fact, as Bhagwati has shown for the US, there is (for Japanese imports into the US) a high correlation between "industries that failed to win protection by the escape clause route, (and) then proceeded, through executive action, to secure VERs on imports" (Bhagwati, 1977, p.1001); whilst Magee (1972) has estimated that about \$5 billion worth of US imports in 1971 were subject to VERs.

Moreover the negotiation of the Generalised Scheme of Preferences (GSP) has not had much success in countering this trend, partly because the US and Canada, till recently, had not implemented the agreed scheme and more importantly because the GSP schemes as negotiated, had implicit VERs built into them (see Tracy Murray, 1973, Cooper, 1970). This has led to the legitimate fear amongst the developing countries that in the industrial division of labour they are likely to be frozen out because of the continuing, and in some cases (eg. the Burke-Hartke proposals in the US) of the increasing industrial protectionism in the developed countries. The continuing world recession following from the October 1973 oil price rise, has led to rising protectionist sentiments in many developed countries. Hence, the prospects for most developing countries (particularly the late starters) of finding continuing access for growing manufactured exports into developed countries appear bleak.

## 2. Adjustment Problems

The conventional answer to this problem is straightforward - an increase in adjustment assistance to the declining industries in the developed

countries, to enable them to redeploy their labour force in industries in which they have a comparative advantage. For such redeployment would mean that consumers would gain from receiving lower cost imports as a substitute for the previously higher priced, protected, domestically produced substitutes and, in the long run, real output would be higher, as existing factors of production would have been redeployed in lines where they were relatively most efficient in production. It is, therefore, in the rational economic self-interest of the concerned countries to let declining industries decline, as the real income losses of the losers from such a policy will be more than made up by the gains of the rest of the community. However, for the losers such an adjustment will only appear attractive if they can in fact be assured of compensation for their losses. This is the purpose of adjustment assistance. Though in principle, most developed countries accept the case for adjustment assistance, the actual experience of their workers with such adjustment assistance has obviously not been satisfactory. Thus in the US, as one commentator has noted:

"One reason for organized labour's opposition to liberal trade policies is that the United States has achieved little success in assisting workers displaced by import competition. The Trade Expansion Act of 1962 broke new ground by providing adjustment assistance for groups of workers injured by competition from new imports. Under this legislation, injured workers could be eligible for extended unemployment compensation; counselling, retraining, and placement services; and assistance in relocation to obtain new employment. Injured firms were also made eligible for benefits which could include special tax assistance, loans and loan guarantees, and technical advice. Labour's enthusiasm for adjustment assistance was short-lived when the eligibility criteria proved so stringent that not a single petition for assistance was approved until 1969 (when the criteria for eligibility were re-interpreted). Even after 1969, long delays between application and approval, along with administrative obstacles to usefulness of some provisions, left most displaced workers, even those eventually judged eligible, to adjust without assistance" (McCulloch, 1976, p.37).



The same observer notes that whilst the US Trade Reform Act of 1974 removes some of the administrative shortcomings of the above measures, it "does little to smooth the adjustment process itself", and hence what is needed are "active steps to assist displaced workers in finding suitable employment. In contrast, the present program emphasises extended unemployment benefits, leaving largely to the workers themselves the problem of finding new jobs" (McCulloch, op.cit. Also see Corbet and Jackson, 1974).

Though an obvious economist's retort is to say that, if the pressure of aggregate demand and the exchange rate are maintained at the appropriate levels, there should be no long run problem of providing suitable employment for the workers of declining industries, this argument may not be sufficiently persuasive to convince workers, unfamiliar with the general equilibrium ramifications of the economy, to cease exerting political pressure to prevent change, on the general risk-averse grounds that a bird in hand is worth two in the bush.

More importantly, however, as Elliott (1973) has emphasised, the degree to which workers in industries subject to pressure from imports from developing countries may seek to resist change may be exaggerated. Thus one important trend in recent years has been the growth of international sub-contracting, or what has been called the international putting out system, whereby many international companies have exported whole chunks of their vertically integrated operations, in the form of particular labour intensive processes, to lower wage developing countries. (see Elliott, 1973, Helliner, 1973, Sharpston, 1975, 1976). The most important example is that of electronics components manufacture in South East Asia,

for use in the home production of international companies' electronic products. Elliott, notes that the growth of international sub-contracting has led to less protests from labour in developed countries than might have been expected. Thus though "American labour has been strongly critical of 'runaway plants' and... the Burke-Hartke Bill reflected this concern, but at least some elements of the labour movement find persuasive the view that the export of labour intensive processes is a necessary condition of the effective survival of the whole industry" (Elliott, 1973, p.68).

It is the resistance of the owners of declining industries which is likely to be more serious. Thus Elliott argues: "Although it would be rash to generalize there is evidence from both Britain and the US that the political power of the entrepreneur, either individually or as a group, in defensive situations such as we are now visualizing is greater than that of organized labour. Certainly it is true that in many such situations the entrepreneur has more to lose. Capital equipment, trading skills, business associations have no alternative use. And a loss-making company is hardly a saleable asset". (Elliott, p.35).

More generally, we can put the point as follows. To the extent that capital (both physical and human) is not shiftable, closing down activities which use that capital is equivalent to making it redundant, and hence depriving its owner of the quasi-rents he could have expected from it over its otherwise 'normal' life. The specific capital which labour owns is its specific skills which do not have a value (and hence earning capacity) outside the existing industry. This human capital is made redundant by the closure of the declining industry. However, to the extent that these declining industries in the developed countries are likely to be ones at the

relatively unskilled labour intensive end of the spectrum, the labourers in them are unlikely to have much specific human capital invested in them. The entrepreneur, however, will have the major share of his investment in the firm in the form of specific physical capital. The costs to him from a closure will therefore entail a larger capital loss than to the workers, particularly if as is usual in most forms of adjustment assistance, explicit compensation is paid to workers for their loss of specific human capital through retraining grants etc., but no equivalent means of compensating the entrepreneur for his loss of physical capital are provided. This suggests that, to mitigate the continuing political pressures exerted by both workers and entrepreneurs in declining industries, in addition to the usual adjustment assistance measures which are meant to compensate workers for their loss of firm specific human capital, some method must also be found to compensate the owners of firm specific physical capital for the loss which a closure of their firm would entail. Finally, it may be noted that this problem of overcoming the resistance of pressure groups of workers and owners whose industries are threatened by imports, and which should be allowed to decline in the interests of maximising the economic welfare of the country as a whole, is not confined to developed countries. A number of the more industrialized developing countries have recently come to see the limitations of the import-substituting industrialisation they have fostered behind high protective walls in the past. They are thus keen to develop a more efficient industrial structure. Given the non-shiftability of much of the capital in most industries, they are then faced with the problem of the closure of their relatively inefficient industries, in favour of the expansion of the more efficient. Though the economic criteria for deciding when and what to close are clear cut, in practice, such countries (of which India is a recent example) find that there is fierce political resistance from the workers and producers in the threatened industries.

The proposal we make in the following section of this paper, concerns the possible use of international co-operation agreements as a device for overcoming these continuing obstacles to the development of the efficient international division of labour, due to the particular private costs, which are unevenly borne in practice, of closing relatively inefficient industries. The proposal is also explicitly based on the assumption that both developed and developing countries have a non-economic preference for industrial production in itself, and hence the economist's traditional case for unilateral or multilateral tariff reductions, coupled with lump sum compensation of the losers, to maximise attainable economic welfare is irrelevant, as it does not recognise this non-economic objective. We assume instead that countries will be unwilling to see the overall level of industrial production being run down from existing levels and will want to find ways in which given this constraint the existing industrial structure can be made relatively more efficient, in the sense of yielding increases in conventional economic welfare to the countries concerned, as well as ensuring that incremental resources devoted to subserving the industrialisation objective will be deployed in relatively more efficient lines in the different countries of the world.

### 3. The Proposal

Our proposal is very simple. It is for the literal swapping of industrial plants between countries. For illustrative purposes consider just two countries, who have entered into an industrial co-operation agreement of the type we envisage. Both countries at the moment, in order to indulge their preference for industrialisation, have a number of inefficient industries, in the sense that the output of these industries could be supplied more

cheaply from imports from the other country than from domestic production. Unilateral tariff reductions by either is ruled out, because though this would raise the trade-liberalising countries real income, it could entail a reduction in the overall level of industrial output. Neither does mutual tariff reduction offer a feasible route to increasing their respective real income levels, because the workers and capitalists in the respective declining industries would suffer losses in their industry-specific capital, and would, we assume, successfully thwart any such trade liberalisation through the exertion of political pressure.<sup>1</sup> The two governments, however, now arrange for the owners of the two industries to export their respective industrial plants to the partner country, and the initial owners of these plants still retain their ownership of the plant in the foreign country. The owners of the declining industries will thus suffer no (or little) loss in their investment in specific physical, and other capital, and should not resist the deal, whilst to the extent the displaced workers can be directly absorbed in the swapped plant, their fears of finding jobs should be mitigated.

It may be asked why this sort of deal requires government to government action, and why it does not already take place in terms of normal commercial transactions. For essentially, given the specificity of capital, and the fact that the economic value of a plant is dependent in part upon its location, it should be relatively profitable for owners of plants in declining industries to export their plants to locations where they would be profitable. Apart from the usual forces of ignorance and lack of information which might

---

<sup>1</sup> Even though the losers may be fewer than the gainers from trade liberalisation, their pressures may be more successful in most democracies, because the consumer interest is usually weakly, if at all, organised.

inhibit such action, there are two other powerful reasons why we do not observe more of such transfers, though as we have noted above, the growth of international subcontracting by multinational firms can be said to correspond in many respects to our proposed scheme. The two reasons are, first, the restrictions that governments in many developing countries place on foreign investment, particularly in what are considered to be their relatively efficient domestic industries. Thus, for instance, India allows foreign investment only into areas where there are new technologies to be absorbed. (see Lal, 1975). This means that most manufacturers of textiles, or shoes or garments, in developed countries, threatened by imports would not find themselves welcome as foreign investors bringing their own second hand plants into most developing countries. As the barriers to entry which prevent this type of foreign investment are erected by governments, at the least, government action to remove these barriers is called for.

Secondly, though in theory there is a strong case for the relatively capital poor countries with low wages, to import second hand machinery (see Smith 1974), and it has been estimated that about 10-20% of the manufacturing capital stock in developing countries is supplied by imports of second hand machinery (James, 1970, cited in Smith op.cit.), there are a number of practical difficulties connected with their use value which essentially relate to problems concerning the assessment of the operating characteristics of the second hand machinery (see Cooper and Kaplinsky (1974)). As a result many developing countries are reluctant to allow freely importation of second-hand machinery. Some of the barriers to the use of second-hand machinery which are based on the lack of certain

knowledge by the buyer of the characteristics of these machines will be overcome by our proposal, where the initial owner of the machines just transfers their location, but still continues to operate them.<sup>1</sup> (There may however be certain losses entailed by transporting and lifting machinery from one location to another and this will tend to lower the value of the machines to the owner in their new location).

Thus governmental action would seem to be necessary to promote the type of industrial plant swapping we envisage. This could be the major component of industrial co-operation agreements which try to go beyond the purely informational or diplomatic functions that current agreements, as exemplified by Indian experience, seem to embody. Though the case has been put in terms of bilateral swaps, it would be better, as in any form of barter, to arrange triangular or multilateral trades. The advantages even from bilateral swaps, however, would be immense if as a result the major barrier to the expansion of exports of manufactures to the countries concerned were thus removed, by the virtual removal from within their borders of the industries whose markets were increasingly claimed to be disrupted.

The choice of industries to be negotiated for transfer from developed countries to developing is relatively easier to determine than those from or between developing countries. For developed countries, the industries (or suitable parts of them) which are currently subject to VERs would be an obvious starting point in industrial co-operation agreements between

---

1

Our proposal, in other words, overcomes some of the problems of qualitative uncertainty that may attach to trade in second hand machinery. (see Akerlof 1970).

them and various developing countries. Textiles, leather products including footwear, are obvious candidates. Less obvious are a number of industries which are highly polluting, and whose pollution control costs are high. With the increased concern with the environment in most developed countries, there is a move to incorporate stringent environmental standards on industrial producers in many developed countries. By contrast, because of their low levels of current industrial output, developing countries should be able to tolerate the pollutants generated by a number of industries without any environmental damage, at least till the time when the industrial pollution generated is near the threshold level of currently developed countries. This means that processes which will increasingly incur additional pollution control costs in developed countries, could be cheaper to produce in many developing countries. A GATT study <sup>1</sup> has tried to establish the industries which are both heavy polluters and have high pollution control costs (in meeting the US Clean Air Act 1967 standards). They conclude:

"that certain sectors of energy production (thermo-generated electricity and petroleum refining) as well as iron and steel production are the leading polluters with the relatively largest cost increases in store for them, followed by a group of industries within which it is difficult to establish precise ranking and which includes non-ferrous metals, certain types of metal fabrication, basic chemicals, pulp and paper, leather tanning and cement" (GATT, 1971, p.8)

Many of these industries moreover are relatively labour intensive (namely with a relatively low value added per employee, to use a criterion developed by Lary (1968)). Developing countries are therefore likely to have an incremental comparative advantage in many of them. Thus Lary (1968) summarised his findings of the industries which were labour intensive

---

<sup>1</sup> GATT: Industrial Pollution Control and International Trade (GATT Studies in International Trade, No.1, July 1971).



(on his criterion) and hence likely to be ones in which developing countries were likely to have a comparative advantage as including:

"such major industry groups in the census of manufactures as textiles, clothing, lumber and wood products, furniture, leather and leather products, and the broad group of miscellaneous manufactures. They would also include many important components of other groups, such as motorcycles and bicycles, cutlery and various other metal products, chinaware and pottery, ceramic tiles, glass containers, paperboard containers, pleasure craft and other small boats, and various kinds of printed matter and printing services" (Lary, 1968, p.14-5).

All these industries, or sections of them would presumably be worth a swap from the viewpoint of the developed countries.

From the developing countries viewpoint, the industries worth a swap would be ones on which their social rates of return (estimated on the lines suggested by Little-Mirrlees, 1974) were relatively low. Thus for India I have made some crude estimates of the relative social rates of return to various industries for 1968. (see Lal, 1975a). There are a number of industries like basic industrial chemicals, phosphoric acid, ball bearings, some types of transport equipment, confectionery, some petroleum products which had negative social rates of return. These could be potential candidates for a swap.

Naturally, none of the industries mentioned above can definitively be said to be ripe for swaps. The lists should be taken as illustrative. Ideally, the governments concerned should provide a clearing house for information on possible industries which are seeking redeployment, and negotiate amongst themselves to remove the barriers which might exist to the type of mutual foreign investment through the transference of locally uncompetitive plants to a more profitable location, that we envisage. It might be felt that the

developed countries would not want to import second hand plants from developing countries as these might embody outmoded technology. This, however, is unlikely as the uncompetitive industries in developing countries are likely to be their more capital intensive ones, which moreover are usually based on imported plant and technology.

Finally, it may be advisable to tie adjustment assistance in the form of training grants for workers in industries transferred to foreign locations to specific training to work the swapped machines in the industries which have been transferred from the partner country. This would reduce the frictional unemployment, which accounts in large part for the private costs of workers made redundant by trade liberalisation (see Bale, 1976, for some estimates), and thus also reduce labour's resistance to the more efficient deployment of the world's industrial capacity.

Thus our proposal for mutual foreign investment, through the swapping of industrial plants in relatively inefficient industries in the negotiating countries, could provide an operational content to the form of industrial co-operation that is being increasingly demanded as part of the NIEO by developing countries. Moreover, it could help to overcome the growing obstacles to a movement towards genuinely free trade in the world. For if free trade (or more strictly 'optimal' trade) became a reality, it would obviously achieve the objective of redeploying world industrial output in an optimal manner. As long as countries continue to attach social value to industrial production per se, the ideal of universal free trade is unlikely to be achieved. Nevertheless, even whilst subserving this non-economic objective, a movement to a second-best economic welfare configuration is possible through the type of arrangements we have recommended. If these proposals have the air of bringing the mountain to Mohammed, this may nevertheless be the best that can be done when Mohammed refuses to come to the mountain.

## Appendix I : References

- G.A. Akerloff(1970): "The Market for 'lemons': Qualitative Uncertainty and the Market Mechanism", Quarterly Journal of Economics, Aug. 1970
- M.D. Bale (1976) : "Estimates of trade-displacement costs for U.S. workers", Journal of International Economics, August 1976
- J.N. Bhagwati (1968): "Trade Liberalisation among LDC's, Trade theory, and GATT rules", in J. N. Wolfe (ed): Value, Capital and Growth (Edinburgh, 1968)
- J.N. Bhagwati(1976) : "Market Disruption, Export market disruption, Compensation and GATT Reform", World Development, Dec. 1976
- J.N. Bhagwati and  
V.K. Ramaswami(1963): "Domestic Distortions, Tariffs and the Theory of Optimal Subsidy", Journal of Political Economy, Feb. 1963
- R.E. Caves(1974) : "The Economics of Reciprocity", in W.Sellekaerts(ed): International Trade and Finance (Macmillan, 1974)
- Commonwealth Sect(1975): Towards a New International Economic Order (London, 1975)
- Commonwealth Sect(1976): Towards a New International Economic Order-A Further Report (London, 1976)
- C.A. Cooper and  
B.F.Massell(1965): "Towards a General Theory of Customs Unions for Developing Countries", Journal of Political Economy, Aug.1965
- C.Cooper and  
R.Kaplinsky(1974): Second Hand Equipment in a Developing Country (I.L.O, Geneva,1974)
- R.N.Cooper(1970): "The European Community's System of Generalised Tariff Preferences: A Critique", Journal of Development Studies, July 1970
- H.Corbet and  
R.Jackson(1974): In Search of a New World Economic Order (Croom Helm, London, 1974)
- W.M.Corden(1974): Trade Policy and Economic Welfare (Oxford, 1974)
- EEC (1975) : The Signing of the Lome Convention-An Historical Event (Information Dept.,EEC, Brussels, Feb.1975)

- C.Elliott(1973) : Fair Chance for All (United Nations, New York, 1973)
- GATT (1971) : Industrial Pollution Control and International Trade (GATT Studies in International Trade No.1, Geneva, 1971)
- D.D. James (1970): The Economic Feasibility of Employing Used Machinery in LDC's, Ph.D. Thesis, Michigan State University
- G.K.Helliner(1973): "Manufactures Exports from Less Developed Countries and Multinational firms", Economic Journal, March 1973
- H.G.Johnson(1965): "An Economic Theory of Protectionism, Tariff Bargaining and the Formation of Customs Unions", Journal of Political Economy, 1965, reprinted in P.Robson: International Economic Integration (Penguin, 1971)
- H.G.Johnson(1965a): "Optimal Trade Intervention in the Presence of Domestic Distortions" in Caves, Johnson, Keenen(ed): Trade, Growth and the Balance of Payments (Rand McNally, 1965)
- M.C.Kemp(1969) : A Contribution to the General Equilibrium Theory of Preferential Trading (North Holland, 1969)
- M.C.Kemp and  
H.Y.Wan Jr.(1976): "An Elementary Proposition Concerning the Formation of Customs Unions", Journal of International Economics, Feb.1976
- D.Lal (1975) : Appraising Foreign Investment in Developing Countries (Heinemann Educational Books, London, 1975)
- D.Lal (1975a) : "Private and Social Rates of Return in Indian Manufacturing", Economic and Political Weekly, December 1975
- H.B. Lary (1968): Imports of Manufactures from Less Developed Countries (NBER, Columbia, New York, 1968)
- R.G.Lipsey (1960): "The Theory of Customs Unions - A General Survey", Economic Journal, 1960
- I.M.D.Little and  
J.A.Mirrlees(1974): Project Appraisal and Planning for Developing Countries (Heinemann Educational Books, London, 1974)
- I.M.D.Little, T.Scitovsky and  
M.Fg.Scott (1970) : Industry and Trade in Some Developing Countries (Oxford, 1970)
- S.P.Magee(1972) : "The Welfare Effects of Restrictions on US Trade", Brookings Papers on Economic Activity, No.3, 1972.
- R.McCulloch (1976): "United States Foreign Trade Policy: Emerging Choices", in Trade, Inflation and Ethics, Critical Choices for Americans, Vol.5 (Lexington, 1976)

- J.E.Meade(1951) : The Theory of International Economic Policy (London,1951)
- J.E.Meade(1956) : The Theory of Customs Unions (North Holland, 1956)
- Tracy Murray (1973): "How Helpful is the Generalised System of Preferences to Developing Countries?", Economic Journal, June 1973
- D.Nayyar(1975) : "India's Trade with the Socialist Countries", World Development, May 1975
- M.Sharpston(1975,76): "International Sub-Contracting", Oxford Economic Papers, March 1975 and World Development, April 1976
- M.A.M.Smith(1974): "International Trade in Second-Hand Machines", Journal of Development Economics, Dec.1974
- UN (1975) : The Seventh Special Session of the General Assembly-Round Up and Resolutions(New York, 1975)
- UNIDO (1975) : Lima Declaration and Plan of Action on Industrial Development and Co-operation (UNIDO,Lima, 12-26 March 1975)
- J.Vanek(1965): General Equilibrium of International Discrimination-The Case of Customs Unions (Harvard,1965)
- J.Viner (1950): The Customs Union Issue (Carnegie Endowment for Peace)
- D.Wall (1976): "The European Community's Lome Convention - 'Stabex' and the Third World's Aspirations", Guest Paper No.4, Trade Policy Research Centre, London.

## Appendix II: Indian Joint Ventures Abroad

Table 1 : Numbers

<u>Country</u>	<u>Sanctioned</u>	<u>In Production</u>	<u>Under Imple mentation</u>	<u>Withdrawn</u>
1. Malaysia	46	23	15	8
2. Indonesia	16	3	8	5
3. Sri Lanka	15	3	1	11
4. Kenya	15	7	2	6
5. Mauritius	14	5	5	4
6. Nigeria	12	3	-	9
7. Iran	11	2	3	6
8. Singapore	10	1	6	3
9. Ethiopia	9	2	-	7
10. USA	8	4	3	1
11. Afghanistan	7	1	2	4
12. Thailand	7	3	3	1
13. Canada	6	1	2	3
14. Dubai	5	-	5	-
15. Saudi Arabia	5	-	1	4
16. Zambia	5	-	2	3
17. Philippines	4	1	3	-
18. U.K	4	3	1	-
19. Ireland	3	1	-	2
20. W.Germany	3	1	-	2
21. Tanzania	3	-	-	3
22. Fiji	2	1	1	-
23. Hong Kong	2	1	1	-
24. Iraq	2	-	1	1
25. Oman	2	-	2	-
26. Uganda	2	1	-	1

Table 2

Ranking of Countries by number of Joint  
Ventures in Production and under  
Implementation

<u>(A) In Production (numbers)</u>	<u>(B) Under Implementation (numbers)</u>
1. Malaysia (23)	1. Malaysia (15)
2. Kenya (7)	2. Indonesia (8)
3. Mauritius (5)	3. Singapore (6)
4. U.S.A (4)	4. Mauritius, Dubai (5)
5. Sri Lanka, Indonesia, Nigeria, Thailand, UK, (3)	5. Philippines, Iran, Thailand, USA(3)
6. Ethiopia, Iran (2)	6. Afghanistan, Canada, Kenya, Oman, Zambia (2)
7. Afghanistan, Phillipines, Canada, Hong Kong, Fiji, Ireland, Uganda, W.Germany, Singapore (1)	7. Sri Lanka, Fiji, Hong Kong, Iraq, UAE, Nepal, Saudi Arabia, UK(1)

Source: Table 3

Table 3

Indian Joint Ventures Abroad at end March 1973  
By Country, Industry and Status

<u>Country</u>	<u>In Production</u>	<u>Under Implementation</u>	<u>Withdrawn</u>
Afghanistan	corrugated boxes	leather tannery; corrugated board and card	sewing thread; bicycles; ice plant, spinning plant
Canada	hardboard	Indian ham; re-processing and marketing shrimp	starch; liquid glucose; textiles
Cyprus			cotton yarn and thread
Sri Lanka	sewing machines; glass; PVC; leather cloth	auto electrical parts;	mica mining; air-conditioners; pharmaceuticals; electric motors and pumps; hotel; electro-static tea leaves/stalk separator machines; trucks; AA ACSR conductors; filters; textiles; bobbins, shuttles and steel reeds
Dubai		cylinders; fabrication of architectural equipment; sulphuric acid; soda chlorine plant; consultancy services	
Ethiopia	textiles; woollen textiles		soap; fibres; aluminium sheet rolling mill; plastic processing; clock assembly; razor blades; malt house

Table 3 (cont...)

<u>Country</u>	<u>In Production</u>	<u>Under Implementation</u>	<u>Withdrawn</u>
Fiji	flour mill	glass bottles	
Philippines	diesel engines	coconut processing plant; spinning mill; copra crushing and extraction	
Hong Kong	engineering consultancy	stationery	
Indonesia	textiles; steel files; spinning plant	high tensile reinforcement; cold rolled box strappings; water meters; textiles; oil seeds crushing; solvent extraction; art paper; steel furniture; malleable iron pipes	storage batteries; castings for pipe fittings
Iran	auto components; construction	shock absorbers; steel bars; auto shock absorbers	trailers; non-ferrous semis; hose pipes; elect motors and transformer repair service station; malleable castings
Ireland	tufted carpet yarn		steel balls; nylon bristles
Iraq		civil construction	soft drinks
Kenya	textiles; gripe water; woollen textiles; cork; paper pulp; cast iron foundry; pharmaceuticals	synthetic filament yarn; pipe fittings	pharmaceuticals; fluorescent fixtures; printing; scooter assembly; light engineering; bicycles
Mauritius	mosaic tiles; textiles; garments; terry towels; steel rolling mill	hotel; cement; cables and wires; power pumps	rubber products canning; textiles; flour



Table 3 (cont...)

<u>Country</u>	<u>In Production</u>	<u>Under Implementation</u>	<u>Withdrawn</u>
Malaysia	cotton textiles; steel furniture; glass bottles; confectionery; pumps; precision tools; electrical accessories; steel foundary; auto chains; cycle chains; palm oil fractionating; hydrogenation of palm oil; statione- ry; cosmetics & pharmaceuticals; safety glass; vanaspati; soap; piston components; sugar, tube valves; textiles; flex cord; solder wire; graphic anodising; management and consultancy	biscuits; pharma- ceutical; sandalwood soap; fatty acid and glycerine; metallic tubes; heating elements; pumps; radiators oil coolers; nylon and polyester yarn and fabrics; spinning mill; coco- nut processing; electrical auto parts; commercial vehicle assembly plant; handling equipment; high density poly- thylene	electrical fans and sewing machines; coated abra- sives; zinc oxide; insulated conductors; hair oils; talcum powder; auto remote control and speedometer cables; air compressors; shock absorbers
UAE		engineering unit	
Nigeria	engineering goods; razor blades		solvent extraction; air conditioners; textiles; palm kernel crush- ing plant; textiles; cycle tyres and tubes; scooter assembly; steel re-rolling mill
Nepal		jute mill	
Oman		trading; consultancy	
Singapore	auto accessories	shipping; stearic acid; auto streights; enamelled wire; soft drink concentrates; erection and technical services	welding electric fans and sewing machines; fluorescent fixtures

Table 3 (cont...)

<u>Country</u>	<u>In Production</u>	<u>Under Implementation</u>	<u>Withdrawn</u>
Saudi Arabia		rubber ring and other rubber products	vanaspati; refrigerators; asbestos cement; transistor assembly
Thailand	synthetic fibre spg; steel mill; textiles	viscose staple fibre; semi-conductors; hack-saw blades	newsprint
Uganda	jute mill		sugar
USA	restaurants (4)	magnet wires; restaurant; consul- tancy services	hard-board
UK	asbestos cement products; sweet meats; restaurant	restaurant	asbestos cement products; light eng. goods
W. Germany	oil engines; rice milling machines		hose clips; non-ferrous forgings
Zambia		drum reconditioning; assembly of tractors and agricultural equipment	construction; enamel wire; refining used lubricants
Australia			carbon and graphite products
Colombia			twist drills
Qatar			construction international port
Ghana			agricultural tractors
Grenada			canning unit
Japan			single spindle automatic lathe assembly
Lebanon			pesticidal formulation; sodium silicate

Table 3 (cont....)

<u>Country</u>	<u>In Production</u>	<u>Under Implementation</u>	<u>Withdrawn</u>
Libya			pipes; asbestos cement products
Morocco			cork factory
Senegal			refrigerators and air- conditioners
Togo			radio assembly; enamel ware
Trinidad			canning unit
Tanzania			mini-steel plant; pharma- ceuticals; re-rolling mill
Yemen			builders hardware