

OPEC AS A MODEL FOR OTHER MINERAL EXPORTERS

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The unprecedented success of the oil producing countries in negotiating improved terms and prices with the major multinationals and with industrialised nations of the non-Communist World has brought to the less developed countries as a group a feeling of discomfort as well as a sense of new power. On the one hand the authority and unity with which the OPEC countries conducted negotiations were novel phenomena which could have untold repercussions on the relations between such countries, the international companies, and the industrialised world. On the other hand the sense of achievement for some countries has been mixed with severe consequences for many resource-poor and least developed countries.

One of the questions now being pondered is whether underdeveloped countries which dominate the supply and reserves of other minerals can emulate OPEC's example and achieve similar successes. This article examines some of the considerations which may be applicable to the strategies and tactics pursued by such countries. The reactions and counter-measures which might be adopted by the major companies and the industrialised countries are also examined.

It appears from the OPEC model that there are two main economic prerequisites for success:-

- (a) a few countries must control a large portion of the traded supply of the good — scarcity in real terms is not essential (since scarcity can be manufactured), but *control* is;

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(b) demand must be price inelastic — there must be a vital need for the commodity, and the possibilities of substitution must be remote at least in the short-term.

These two conditions are satisfied to a considerable degree in the cases of copper, bauxite and tin. Four developing countries — Chile, Peru, Zaire and Zambia — produce most of the world's exportable supply of copper. Malaysia, Bolivia and Thailand account for 70% of all tin entering international trade channels. The seven states of the Intergovernmental Bauxite Association (Australia, Guinea, Guyana, Jamaica, Sierra Leone, Surinam and Yugoslavia) produce 70% of the world's bauxite. Table 1 shows the position in respect of known reserves.

TABLE 1

Location of mineral reserves/countries (percentages)

Mineral	Developed	Developing	Centrally-planned
Bauxite	33	62 ¹	5
Copper	37	47	16
Tin	4	79	17

¹ including Australia

Source: US Bureau of Mines, Minerals Facts and Problems, USGPO, 1970

Strategies

It is evident that the *control* of the mineral resources of developing countries is the most important single objective to be pursued by such states; this means not merely legal control, in the sense of ownership, but also physical control, i.e. the determination of the *uses* to which the resources must be put. The major roles in this control were hitherto played by foreign investors and multinational companies. In the United Nations General Assembly and at UNCTAD the assertion has been made that it is the inalienable right of all countries to own and control their national resources, and to make the central economic decisions relating to their development and use. The development strategies of LDCs are aimed, therefore, at effecting the necessary changes for maximising the benefits which they can secure from the exploitation of their natural resources; one

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of the main targets being to reverse the tendency of these countries being mere producers and exporters of raw materials and to organise them along industrial and manufacturing lines; another being to redress the economic imbalance between rich and poor countries.

The role of the mining sector in these development strategies is threefold:-

- (i) generating the foreign exchange needed not only for consumer goods, but more importantly for the capital and intermediate goods necessary for achieving agricultural and industrial development. Some countries are almost entirely dependent on this source of revenue;
- (ii) generating an important part of government revenues;
- (iii) producing multiplier effects in the rest of the economy through employment and local industry linkages.

The history of the mining industry has not demonstrably fulfilled these objectives. Multinational corporations have dominated the sector, which has led to its being an enclave in many countries with minimal impact on the rest of the economy. Furthermore, these countries have gained little of the actual or potential value of these resources, be it because of low taxation, low price or low value added. (Table 2).

TABLE 2

Prices obtained by producers under cif delivery conditions, 1970

	Raw material	Semi-processed	Metal bar
Aluminium	4 tons bauxite \$20-\$30	2 tons alumina \$120	1 ton aluminium \$570
Copper	50 tons 2% ore \$250	3 tons 33% concentrate \$800	1 ton copper \$1140
Steel	1.7 tons ore \$12-\$17	1.1 ton sponge or pig iron \$44	1 ton steel \$110

Source: Alexander Sutolov: Minerals in World Affairs, The University of Utah Printing Service, Salt Lake City, Utah, 1973, p.166.

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This situation arises because multinational corporations in the extractive industries have objectives which differ from those of host countries; the main one being maximisation of long-term aggregate profits, an objective which implies some at least of the following strategies¹:

- (i) obtaining the mineral at low price;
- (ii) producing as much as possible of the value added in their home country, so as to exert more control over this stage with fewer risks;
- (iii) obtaining as much as possible of the inputs from the home country, thus giving them (or their associates) an increased market and (through the scope for transfer pricing) increased profits. For the host country, this increases the enclave element, as well as reduces net foreign exchange earnings;
- (iv) maximising capital intensity, partly as a result of undervaluation of capital and overvaluation of labour. This also reduces the risks of labour problems.

In order to achieve their own national objectives, developing countries can follow some or all of the following strategies:

- (i) maximise government revenues and foreign exchange earnings from the companies, implying an efficient tax system and high base prices. Steps towards increased government participation and, in many cases, also towards full nationalisation are necessary. These steps lead to maximising government revenues and eventually complete control, so that the mining sector can be directed to national objectives and not to the benefit of the corporations. These are prerequisites for any of the three that follow;
- (ii) maximise the value added before sale. This not only increases revenues, but means access to the more competitive and open markets found further along the line. The processing may be done, for example, as a joint venture with another country as well as

¹ For a more detailed account of the strategies of multinationals see the paper by Biplab Dasgupta in this issue.

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domestically. One constraint may be tariff barriers on semi-fabricated products, which can only be overcome by doing the further processing in the country where the market is;

(iii) produce locally the inputs needed by the mining sector, be they intermediate or capital goods, achieving many of the above-mentioned objectives. This would: (a) reduce foreign exchange expenditures; (b) increase self-reliance, and reduce the dependence on — and so power of — external suppliers: (c) the mining sector, though not itself a large employer, requires a wide variety of inputs and so can potentially have a large multiplier effect through the economy, and a special impact on employment; also (by serving as a concentrated focus for national effort) this can increase returns from local R and D and innovative investment; furthermore, these inputs may also be sold to other countries;

(iv) control the markets. This could help achieve high and stable prices.

Organisational characteristics and some political and international constraints

The current organisations which deal with copper, bauxite and tin are CIPEC (the Conseil Intergouvernemental des Pays Exportateurs du Cuivre), IBA (the Intergovernmental Bauxite Association) and ITC (The International Tin Council). CIPEC was established in 1967 with four members: Chile, Peru, Zaire and Zambia. Although these four are not the only developing countries which mine and export copper (Philippines, Papua New Guinea and Iran are others), between them they produce most of the world's exportable supply, and this is most important for welding together a viable organisation. Even if the remaining copper exporting countries were admitted to membership, the control of policy and decision-making would remain heavily dominated by the original members.

In the case of bauxite, the seven members of the recently formed IBA produce two-thirds of the world's bauxite. But there are some other countries which could, conceivably, become members on the basis that they are developing countries and are potential significant producers — for example, Haiti, Indonesia, Malaysia, Honduras and India. Again, since it is an association of producers, and not only of

producer/exporters, the criterion to be used to exclude producers (for example the USA) will have to be very carefully worked out, and could possibly pose some difficulty.

The International Tin Council presents a rather different picture. Membership of the Council is not restricted to producers, although the producer-members supply well-nigh all the world output. The major consumers — with the sole exception of the USA, which is being urged to join — are all members of the Council. This does not permit decisive action on the part of the producers in any plans that might be entertained for the carrying out of a policy of output restriction. Reorganisation to exclude the consumer-members, or the formation of a separate body to represent the interests of the producers alone, is a prior requirement for such objectives.²

Even given the most favourable arrangements, structurally and constitutionally, all these organisations would face difficult operational problems. The political motivations and aspirations of their members, and would-be members, are not identical. Although most of them may clearly be described as less developed, they cannot all be classified as politically non-aligned. Even in the case of OPEC there were political differences, but the OAPEC members as a sub group were coherent enough for their motivation to carry the other OPEC members with them.

Reactions of multinational corporations and industrialised countries
Both the multinational corporations and the governments of consuming industrialised countries may be expected to take some counter measures if there is a proliferation of cartels among the producer nations. It is interesting and instructive to observe the effects of the rise in oil prices on the multinational corporations, and to note that they have emerged at least in the short-term with even greater profits as a consequence.³ The recent high prices for other minerals have also made it a prosperous period for multinational

² Most, but not all, of the members of the syndicate mentioned were of this opinion.

³ See the profit figures for the oil companies given in the Diary of Events on the Oil Market 1970-1974 in this Bulletin.

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corporations. For example, in April, Rio Tinto Zinc announced profits of some £225 m. in 1973, an increase of 100% on the previous year. These windfall gains are largely attributable to the fact that the multinational corporations have continued to control the marketing and processing stages for the products concerned. It is a fundamental theme of this article that control over these forward marketing functions should eventually pass to the producer countries.

During the oil crisis there was loose talk in the industrialised countries of open aggression against the producers. But it is generally agreed that this form of retaliation is highly impracticable in the world politics of the 1970s. It is scarcely inconceivable that any "bloc" of developed countries would stand idly by while another "bloc" attempted to annihilate groups of underdeveloped countries.

There are, however, other avenues of retaliation open to the industrialised nations. One is to join together in a counter "cartel", and apply pressure by withholding supplies vital to economic progress, or by collectively reducing their dependence on commodities from developing countries. Certainly the industrialised countries between them have sufficient technological knowhow and capital resources to achieve self-sufficiency quite quickly should they make a conscious and co-operative decision to do so. Another is the area of aid. The majority of international lending agencies are influenced very strongly by the actions and opinions of the developed countries, especially the USA.

Conclusions – copper as an illustration of the constraints on producer strategies

We conclude by considering some of the many factors which a potential cartel would have to take into account, using copper as an example. There are briefly three sets of such factors which are crucial in the minerals sector: first, the demand and supply characteristics of the commodity itself; the second is the technological response capabilities of the industrialised countries in respect of that commodity, and in particular the extent to which there is direct substitutability with another of the commodities in the group under discussion, and third, constraints internal to the producing countries

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themselves, such as the adverse employment effects of production cuts.

In respect of the *demand and supply characteristics* of the international copper market, account would need to be taken of (a) on the consumption side, the price and substitution elasticities of demand together with observed trends in the uses of the product and in the level of industrial activity in the importing countries (b) on the production side, the elasticity of the rest of the world supply, given a particular market share of the cartel; and also the cost and potential of scrap recycling.⁴

The *technological response* of industrialised countries remains an important constraint on the longer-term viability of a unilateral price increase by producer/exporters. There are the possibilities of:

(a) substituting supply from alternative sources; developing previously uneconomic deposits (from low grade ores or seabed nodules); and substituting with alternative materials (see Table 3);

(b) increased recycling which would reduce demand for, and use of, new supplies. Copper does not in general degenerate in any of the uses to which it is put; which implies that increased technological and organisational capacity for collection, separation, remelting and so on could significantly increase the proportion of the metal re-cycled;

(c) using materials more efficiently, by different designs and lengthened product lifetimes. For example, modern telephone cables use about 25% of the copper needed a few decades ago.

In respect of these substitution possibilities it should be particularly borne in mind that most of the consuming countries would not, even under extreme circumstances, have to replace supplies or eliminate demand, for *all* their consumption, but only that part which they

⁴ An econometric model could be used both to obtain values for the important elasticities and to examine the limits of those values which would make cartel action feasible. The preliminary results of one such model discussed by one of the syndicate members suggested that a 1% CIPEC production cut (given its present market share) would result in a ½% increase in price.

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import. In the cases of tin and bauxite, this is the bulk, but for copper it is a much smaller percentage. Consequently, small savings from each of several technological or organisational responses could in the case of copper eventually reduce drastically the dependence of importers on imported supplies.

TABLE 3

Uses of and Substitutes for Copper, 1970

Use	% of Total ^a	Examples of Applications	Substitutes
Electrical	47	Heavy transmission cable Telephone cable	Aluminium (A) Aluminium (P)
Industrial Equipment	19	Brass valves	Special steels
Construction	16	Includes wiring Water Pipes Decorative	Aluminium (P) Plastic and stainless steels (A) Plastic, aluminium (A)
Transport	9	Car radiators	Aluminium (A) Air cooling (A)
Miscellaneous goods	6	Pewter (small Cu content)	Plastic, glass, Cu-free pewter (A)
Defence	3		

Notes: (A)= actually used now as a substitute

(P)= strong potential threat

a = global estimates for 1970

Source: US Bureau of Mines, Mineral Facts and Problems, USGPO, 1970

The other important aspect of these substitution possibilities is the evident necessity of close communication with the bauxite producers before any contemplated market strategies in copper are put into action. Aluminium appears to be quite a ready substitute in many of

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the applications which currently use copper. It is possible to visualise a situation in which the absence of cooperation between the two producer organisations would mean less gain for the initiator of market action aimed at raising prices than for the producers of the other commodity, particularly if the latter were to increase production to meet increased demand for substitution purposes.

The final consideration is that of the *internal effects* within mineral producing countries of a strategy which might require production cuts. Unlike the case of the oil producers, the mining industry is a substantial source of employment in the major mineral exporting countries, and it is not possible to cut back production without affecting the level of employment. This acts as a most severe constraint on the potential of mineral exporting governments to manoeuvre freely on international market strategy criteria alone.

In spite of these constraints, many of which are much more severe than in the special case of oil, we would conclude that mineral exporters are potentially capable of solving the difficulties and following a price-increasing strategy. The fact that many complexities, absent in the case of oil, require identification, quantification and special policies, need not imply that the task is impossible. We should recall that it took 13 years from inception for OPEC to overcome the obstacles to a united and successful action — the mineral exporters at least start with the advantage of OPEC's precedence in the solution of many problems.