1976

Issues Affecting Trade and Investment in Non-Fuel Minerals

Guy F. Erb

Follow this and additional works at: http://scholarlycommons.law.case.edu/jil

Part of the International Law Commons

Recommended Citation
Available at: http://scholarlycommons.law.case.edu/jil/vol8/iss2/6

This Article is brought to you for free and open access by the Student Journals at Case Western Reserve University School of Law Scholarly Commons.
It has been accepted for inclusion in Case Western Reserve Journal of International Law by an authorized administrator of Case Western Reserve University School of Law Scholarly Commons.
Issues Affecting Trade and Investment in Non-Fuel Minerals

Guy F. Erb*

We are witnessing a difficult transition from a period in which control over mineral trade and investment resided mainly in the major industrialized nations and the firms domiciled there to one in which governments of producing countries will exert considerable influence over mineral trade and investment. New relationships are emerging that reflect the attempts by mineral endowed countries to influence the use of their resources. Their political-economic objectives bring them into conflict with the customary policies of industrialized countries, which hitherto have assumed that reliance on market forces will yield the greatest returns to producers and consumers of minerals and metals.

Much of the present conflict between producers and consumers of raw materials centers on who will wield influence over the development and trade of these products. The main actors in the present controversy are:

1. Mineral companies that produce, process, and market minerals and metals;
2. Merchant firms, brokers, exporters, and importers that trade in metals, but do not produce them;
3. Private financial institutions, such as banks and insurance companies, that provide much of the financing for mining projects;
4. Producing countries, that is, the governments of the countries whose territories contain the minerals in question;
5. Consuming countries, that is, the governments of nations which import the raw or processed materials. They take an active interest in negotiations between producing companies and mineral endowed countries, intervene at times in investment disputes, and provide insurance or guarantees for the overseas operations of their companies; and,
6. Multilateral financial institutions; for example, the World Bank Group and the regional development banks, that may play an increasing role in future mineral development.

* MSC. (Econ) 1963, London School of Economics; B.A. 1961, Univ. of California, Berkeley; Foreign Service Officer, 1963-1971; presently Senior Fellow, Overseas Development Council.
Mining and metals firms are in the forefront of the confrontation over mineral production and trade. In part they are in this exposed position because the considerable investments that are needed to bring new mines into operation have acted as a substantial barrier to potential new entrants into the industry. The resultant industrial concentration and the preponderance of the industrialized country interests in mineral and metal operations now motivate producing countries to take collective actions on price and other issues, and to alter, bilaterally or unilaterally, their contractual arrangements with mineral companies.

The bargains between countries and companies are clearly changing. This article considers two factors which underlie these changes: 1) The ways in which mineral endowed countries have sought new mineral arrangements with companies; and, 2) the joint actions taken by producers of minerals and metals.

Negotiations between Countries and Companies

The frequency with which mineral endowed countries, and other nations with significant foreign investments, have reopened negotiations on contracts has given rise to the concept of the obsolescing bargain. Over time, and particularly in cases where operations require large investments, countries have sought new arrangements and have obtained significant changes in their contracts with foreign firms. The large capital requirements of petroleum and mining operations originally gave companies a strong hand in their negotiations with mineral countries which then had little or no prospect of raising the sums necessary. Once the investments were in place, however, bargaining power shifted toward the countries because the companies had a large stake in continuing operations, even under altered contractual arrangements. The process has gone furthest in the petroleum industry, but hard rock mining and other raw materials companies have come under increasing pressure from host countries.

Changing Contracts. There has been a slow and often difficult movement away from the types of concessions and leases which governed mineral production and trade during the colonial and immediate post-colonial period. The "traditional concessions" were largely supplanted by "modern concessions" and now "production sharing, service, and work contracts" are increasing in

---

1 R. Vernon, Sovereignty at Bay Ch. 2 (1968).
number. Traditional concessions usually included extensive rights to the concessionaire to exploit one or more natural resources. Royalties were the main instrument used to calculate payments made to governments. By the 1950's, income taxes had increased in importance, and later, other changes were introduced to stimulate "linkages" between mineral extraction and other parts of the host country's economy.\(^3\)

The traditional concession has given way in many instances to more complex, modern concessions due to desires of producing countries to (1) increase government participation in the ownership of mining operations, and (2) expand the government's management role. The modern concessions thus include equity sharing arrangements of various types and government attempts to exercise some management control or surveillance over corporate management decisions. In some cases, after nationalization has given complete control to governments, management contracts which govern day-to-day operations have been signed with foreign firms.\(^4\)

Other forms of agreements have arisen in which foreign enterprises have no equity in the mining facilities. The government of a mineral producing country may purchase the services of corporations which, holding no ownership interest in the producing entity, thus act as contractors. "Production sharing agreements" is the term used to describe arrangements under which foreign companies and the government of a mineral producing country share a mine's output. The term also refers to arrangements whereby the company or the government may receive benefits in kind rather than through cash payments. This type of arrangement has been most common in the oil industry. Its use is expected to increase in other areas, including non-fuel mineral industries, although mineral companies will probably try to resist their widespread use.

Modification of old concessions and the introduction of new forms of mining and marketing arrangements have changed mineral bargains. Fixed royalties per ton have given way to complex mineral arrangements including stipulations on such issues as loan to equity ratios, plant capacity, employment and training requirements, and other conditions that aim at increasing the multiplier effect of mineral investments in the economy of the host country.

\(^3\) Id. at 566-572.

\(^4\) Id. at 572-581.
Revisions of incentives for mineral development are also underway in many countries. In Ireland, for example, a policy of tax incentives to encourage exploration and mining was established in 1960. The prospect of a 20 year tax holiday encouraged many companies to invest and some large mineral operations were set up. In 1973, a change of government brought about an increase in economic nationalism. That factor, plus the rise in world mineral prices, led to a change in the terms of mineral contracts. New tax arrangements introduced a 4.5 percent profits tax, a corporate tax of 50 percent (no tax holiday is provided), the government purchase of 25 percent of equity and the surrender to the state of 10 percent of mineral reserves. The total impact of this new policy is equivalent to a tax of about 62 percent on profits; a substantial increase over past practices, but still less than the originally intended British tax take from North Sea oil operations (about 73 percent).

In other instances, exploration rights have been separated from production rights, a practice which has been resisted by mineral companies who feel that their best and most profitable contribution to development of mineral resources will be made through the combined application of their exploration and production capabilities. Other innovations in mineral arrangements have recently included variable royalties which increase as prices rise, allowing the government to take all returns above an agreed rate for the mineral company. In effect, mineral countries are using a variety of measures to gain a larger share of the economic rent from a project — that is, any difference between the market price and the operating costs plus a certain profit.

The major impact of mine nationalizations and bargaining initiatives by host countries has been to call attention to additional risks in mineral investment. Development of mineral deposits is costly. Frequently investments run into hundreds of millions of dollars for a single operation and complex financial and legal arrangements between companies, banks and other financial institutions, and countries are necessary. Those who finance mineral development see new projects offering good potential returns but containing important elements of risk. Increasing demands on mineral companies, while possibly improving returns

---

5 Industry interviews. (The author wishes to keep specific sources confidential.)

to the host country, can worsen the climate for substantial new investments there and in other countries which are regarded as likely to introduce similar changes in mining agreements. Thus governments with control over mineral deposits face a choice between policies which aim at maximizing the return from mineral development, but which may discourage investments in exploration and mining, and policies — including measures enhancing investment security — which offer adequate returns to the companies which have the capital, technology, and marketing contacts that contribute to successful mineral operations.

Without adequate new investments, there may be inadequate supplies of essential minerals in the years ahead, a situation which could cause price instability of the sort experienced in 1973-1975. Thus mining companies, financial institutions, and governments of producing and consuming countries all have an interest in mutually satisfactory and stable returns from mining arrangements. The conditions of ownership, management, and investment security must be agreed by all parties if they are to provide a satisfactory framework for mineral development.

The Costs of Mineral Development. The inflation which has gripped the world economy has had a particularly severe impact on mineral development. Mineral projects, which were initiated in the early 1970’s, have experienced rising costs which add enormously to total expenditures. For example, the cost of a nickel refinery expansion in the United States was initially estimated at $24 million. Construction began in 1973 with a revised price tag of $33 million and the project was completed in 1975 at a total cost of $40 million, a 66 percent increase. In another case, equipment construction costs of a U.S. copper refinery were estimated at $111 million in 1973. As the project neared completion, total costs were forecast at $190 million, more than a 70 percent increase. Development of a large nickel project in Southeast Asia has seen initial cost estimates of $650 million rise to $820 million. In 1 year, total costs of this project increased 26 percent, while the first stage costs rose by about 60 percent from late 1973 to late 1975. Another nickel project in Central America showed a 27 percent cost increase over a recent 18 month period.  

The large increases in the costs of equipment, materials, and services related to mineral development that have taken place during the 1970’s, particularly since 1973, have considerably raised

7 Industry interviews.
the capital required per annual ton of production capacity. For example, the cost of copper per annual ton of production in 1973 was about $3,000; it is now estimated at about $6,500. Over a longer period, from 1965 to 1975, the capital required for iron ore production rose from $20 per annual ton to $200 per annual ton.8

These price increases have far exceeded the expectations of mineral producing companies and the financial institutions upon which they depend for a large part of the resources required for mineral development. Companies now face the prospect of a single project placing significant demands upon funds available for investment within the company and of increased dependence on loans for project financing. There is concern that as inflation alters the climate for investment, bankers may require new forms of security; whereas, in the past, they may have been satisfied with “take or pay” contracts or floor price contracts with purchasers of a mine’s output. Inflation has also given pause to companies that in the past might have been prepared to give completion guarantees to lending institutions. The rise in costs of mineral development has led to increasingly complex arrangements for mining investments involving syndicates of banks, international financial institutions, export credit agencies of developed countries, mineral companies, and host governments. The aims of the latter for training, housing, and other social aspects of a project, plus the impact on total costs of requirements for infrastructure in a developing country, add to the difficulties in arranging satisfactory financial packages. The difficulties in raising the capital necessary for mineral development projects will hinder the ability of companies to meet the concerns of mineral holding countries.

From the point of view of countries with mineral deposits, the impact of inflation on development costs has also made it more difficult to raise the funds necessary for national participation in the ownership of a project. They face problems in convincing banks of their creditworthiness and the search for new forms of security is a prime concern of those seeking greater mineral production.

Factors Affecting the Creditworthiness of Mineral Countries. The earnings of most raw materials exporters and hence, their creditworthiness, are highly dependent upon the business cycle in developed areas. Mineral exports have relatively low price elasticities of demand and, in the short run, low supply elasticities as

---

8 Industry interviews.
well. Thus, mineral exporters benefited greatly from the increase in demand during the 1973-1974 boom and, at this writing, they are suffering markedly from the downturn in economic activity in the industrialized world and its effects on demand for non-fuel minerals.

It had been widely assumed in 1973-1974 that mineral producers faced better demand prospects for their products than many other raw materials suppliers. Consequently, it was felt initially that they could ride out the relatively unfavorable situation in which the developing world as a whole found itself as the recession made itself felt. The slowness of economic recovery, low prices for minerals and metals, and the concern over economic and political risks which appeared to reduce new investments in mineral production has tempered that optimism. A tendency to cut back on foreign operations by some international banks and corporations also has had its impact on mineral producers. Many mineral development projects and expansions of existing operations are planned. But delays, cancellations, or postponements are frequent, and the large capital outlays necessary for new mineral projects have not been forthcoming in many cases.

The unfavorable debt situation and poor business climate has made mineral corporations and private financial institutions uncertain about new investments in developing areas. The external debt of principal mineral exporters (excluding OPEC members) was $47.2 billion in 1973. One major mineral producer, Zaire, was in arrears on interest payments for its medium and long-term international credits. The sharp drop in copper prices was cited as an important factor in the decline in Zaire's export earnings and consequent debt problems.

Questions have been raised about the sustainable level of private lending to developing countries. A cutback of international private financial transfers may further depress growth prospects, adding to business uncertainties. In the present climate, developing countries seeking to develop mineral deposits will be subject to close scrutiny as regards their future creditworthiness and growth prospects. In the recent past, only a few have had notable access to Eurocurrency markets. Among the group of principal mineral exporters (excluding OPEC mem-

9 International Mining Survey, MINING MAGAZINE, Sept. 1975, at 185-221.
bers) only Brazil, Mexico, Peru, and the Philippines received substantial Eurocurrency credits in 1973-1974: Their total borrowings amounted to $7.4 billion. Ten other mineral exporters received less than $1 billion and the bulk of those credits went to three countries, Jamaica, Zaire, and Zambia.12

In 1975, the above four countries received significant Eurocurrency credits. In addition, Malaysia borrowed $225 million.13 At first glance, these and the earlier credits may seem to indicate a positive overall assessment of the creditworthiness of this group of countries. The record of most of the developing countries is good and no doubt contributed to their continued access to credit. But in a recession or in periods when the dollar has declined in value the market in industrialized countries for credits has diminished, prompting international banks to seek borrowers in developing areas. Moreover, it has been suggested that some developing countries are "meeting their interest payments only by borrowing more money."14 Thus, factors may have been at work during recent months which could have given a misleading impression about the state of many countries' debt servicing capacity. An upturn in their export earnings is critical to ensuring their sustained creditworthiness.

Ensuring Investment in New Production. In discussions on the means of financing new mining projects, corporate leaders and official policy makers in industrialized countries emphasize the benefits which the efficient operations of a market economy bring to producers and consumers. Developing country representatives are often more willing to resort to government intervention as a counterweight to the disadvantages that they see in market uncertainties and concentration of market power in industrialized countries. Leaders of developing nations may see the support of market forces by leaders of industrialized nations as a means to guarantee foreign private interests freedom to act without reference to the objectives of host countries, rather than the freedom to create a competitive and efficient market system.

These disagreements form a backdrop to the actions taken by mineral countries to obtain more favorable arrangements with mining companies. Together they have clouded the investment outlook for non-fuel minerals. While differing views about the

foreign activities of private corporations can often be overcome once talks between companies and governments begin on specific issues, the negotiations themselves pose difficult policy choices for mining corporations. In those cases where large investments have already been made, renegotiation with the host countries has often been the only alternative. For example, in October 1974, the Government of Papua New Guinea renegotiated the terms of a 1967 copper arrangement with Conzinc Rio Tinto of Australia. A 1967 agreement had given the company a tax “holiday” until 1976, special depreciation provisions, and a privileged legal position. In addition to withdrawing these special concessions, Papua New Guinea also made arrangements for increasing its share of copper mining profits as those profits increased.¹⁵

The prospect of such negotiations, or the knowledge that new forms of contractual arrangements will be required before mineral development is allowed to proceed, led some commentators to conclude in 1975 that mineral exploration is no longer a feasible venture in developing nations or in Australia, Ireland, and certain provinces in Canada.¹⁶ They attributed the declines in new investment, not only to the recession and continuing inflation, but also to the insistence on deals by host governments, which might reduce the returns to companies from successful mining operations. Since relatively high profits from a few projects have usually been the bases for further exploration and development, the absence of adequate returns is often cited as a major obstacle to adequate development of new sources of supply of non-fuel minerals.

It should not be assumed that greater use of joint ventures, service contracts and other forms of mineral arrangements will necessarily reduce the profit margins of mineral companies.¹⁷ Company/government negotiations will require some adaptation by companies — for example, through use of accelerated depreciation rather than reliance on tax holidays — but both sides will continue to seek an adequate share of the returns from hard rock mining. Even major changes in company/country relationships can apparently result in arrangements that are satisfactory to the mining companies concerned.¹⁸

¹⁵ Industry interviews.
¹⁶ Changes in the Governments of Australia on Dec. 13, 1975 and British Columbia on Dec. 11, 1975 were observed with considerable interest by the mineral industry.
¹⁷ See D. J. Lipton, supra note 6, at 20.
¹⁸ For a detailed elaboration of this point, see C. F. Bergsten, T. Moran.
prises are by nature "highly flexible" and pragmatic resolutions of the conflicts between countries and companies over contractual arrangements are certainly more likely than a cessation of new investments.\(^{19}\)

In response to new demands by mineral countries, some companies have greatly increased exploration and development in "safe" nations such as the United States. Exploration and development of the seabed is another possibility for certain minerals. But not all companies can turn toward the United States, nor do many have the technical capacity to look to the seabed as a source of minerals in anything but the long term. For many firms there will be no alternative to further development of mineral resources on foreign dry land; and, for most consuming nations, this will remain the short to medium term source of critical minerals. Thus, despite the difficulties of negotiating with mineral countries and the hesitancy of private financial institutions, many private investments are currently planned for African, Asian, and Latin American countries as well as the more developed nations. Their development will depend on public and private efforts to ensure adequate capital investments.

For their part, the developing host countries have powerful incentives to seek new bargains with mineral companies. International discussions on commodity policies are time consuming and offer direct benefits to only a few non-fuel minerals.\(^{20}\) In the short run, greater returns from national mineral development may be the principal option open to a mineral country, a situation which could lead countries to compromise on certain issues.

Meeting the concerns of private companies and financial institutions may require support from developed-country agencies and multilateral development banks. The United States Government has suggested one means of providing such support. At the Seventh Special Session of the U.N. General Assembly in September 1975, it called for a major expansion of the activities of the World Bank and its affiliates in the financing of raw materials and R. Horst, *U.S. District Investment in Foreign Natural Resource Development*, in *American Multinationals and American Interests* Ch. V (to be published by the Brookings Institution, 1976).


development in developing countries. The United States has proposed that these institutions supply limited amounts of capital directly and use their technical, managerial, and financial expertise to bring together funds from private and public sources. Thus, the World Bank group would act as an intermediary between private investors and host governments, and would link private and public investors by providing cross guarantees on performance. World Bank loans would also fund government projects, particularly for infrastructure. The International Finance Corporation (IFC) would join private firms in providing loans and equity capital. The United States proposed that the World Bank group should help mobilize $2 billion in private and public capital annually for raw materials development.21

Although there is no substitute for viable contractual relationships which both host countries and mineral companies find mutually satisfactory, the U.S. proposal may help surmount some of the problems in this area. One hundred percent mine ownership by private investors is increasingly infrequent and, in any event, neither mine ownership nor substantial equity now provide adequate guarantees for many investors. The security provided by long-run purchase contracts has also been questioned given the recent impact of the recession on several such contracts, in the copper and iron ore trade, for example. The participation of the World Bank, or a regional development bank, in a project’s financing arrangements may help satisfy a private investor’s concerns about security and also allow the host government the national sovereignty over mineral development that it wishes. The multilateral institutions may begin to act as catalysts in bringing together private and official financial institutions in consortia for raw materials and mineral projects. The role of multilateral agencies may also facilitate access by developing-country governments or state enterprises to capital markets in industrialized areas. However, both host countries and private industry may be reluctant to accept the conditions which an international agency may seek to apply before it enters a project. Since such an agency would

21 The Resolution of the U.N. General Assembly’s Seventh Special Session (U.N. Document A/10232, Sept. 24, 1975) calls for the World Bank Group to supplement its development financing with private capital in ventures suitable to the national plans and priorities of developing nations. It has also recommended increasing the capital of the World Bank. The U.S. recommended an increase in the capital of the International Finance Corporation (IFC), and the creation of an international investment trust to increase investment in local enterprises and guarantee those investments with a loss-reserve and the Resolution calls for the consideration of this proposal.
probably provide only a relatively small share of the total investment necessary for a mineral project, conditions on financial arrangements, the return expected from a project, and operational issues would have to be tempered to reflect its proportion of total project financing.

The consuming countries' interest in adequate and reasonably priced supplies of minerals and other raw materials can combine with the private sector's desire to reduce investment risks. National systems of investment insurance, for example, have played a role in many projects. The diminished share in equity held by developed-country interests has begun to alter the way in which such institutions have underwritten risks, and some will cover loans as well as equity operations. In the United States, its insurance organization, the Overseas Private Investment Corporation (OPIC) has diminished its coverage of mining projects relative to the practices of the previous program (managed by the Agency for International Development). OPIC is facing a further change as the increased participation of private insurance which was stipulated by Congress comes into effect. Another means of obtaining the necessary finance which has been used in the petroleum and natural gas industries is to introduce consumers of the product to the financing of a project. In effect, such consumers would pay in advance for the desired mineral, thus contributing an important portion of a project's total costs. Such a procedure will work best when the minerals in question are facing strong demand: Panama has recently sought acceptance by banks of future copper purchases as partial security for loans to a large copper project. Apparently the proposal has not proved entirely satisfactory, and banks are reportedly seeking government guarantees of the loans as well.22

For private mining firms, investment decisions depend on several critical elements: Ownership of mineral development projects, the control a firm can exercise over management, who will bear financial and technical risks, and how the financial benefits from a mining operation are to be shared. These concerns can only be partially met by innovations in project financing. A willingness to consider alternatives to past practices and constructive efforts to reach new forms of arrangements by both companies and host countries will be indispensable to the future financing and development of non-fuel minerals.

22 Report Panama is Offering Copper Futures to Back Loans, AMERICAN METAL MARKET, Dec. 9, 1975.
The changes in ground rules that producing countries have sought in mining arrangements and the separate, but related, international commodity discussions are sometimes said to pit the advocates of the free market system against an "interventionist school" which "would create a complex system of indexed prices, commodity arrangements, governmental trading corporations, and government-run or controlled corporations to produce raw materials." This view of the controversy implies that prices of minerals and other raw materials have, in the past, moved solely in response to the free play of market forces. In fact, world prices of commodities often result from the pricing policies of major international firms. Prices of mineral ores and concentrates may be based on internal company transfer price decisions or on changes in the companies' production costs. Before we examine the actions of mineral countries, whose "producer power" figured in the headlines of 1973-1974, a brief description is therefore appropriate of actions taken by private firms.

Company Policies. Although individual companies do compete actively for sales and sources of non-fuel minerals, the industry as a whole is one in which "purely competitive" markets are relatively minor channels through which minerals and metals enter world commerce. Other channels have included vertically integrated firms which encompass mining, processing, and marketing operations; cartels comprised of private or state enterprises; bilateral trading arrangements between governments — using state trading enterprises or private firms as agents; multilateral commodity arrangements; and public and private monopolies. Influence over mineral industries has usually been concentrated in developed areas: For example, the ownership and management of the aluminum, cobalt, copper, diamond, iron ore, lead, magnesium, nickel, tungsten, and zinc industries in the past have been largely based on private companies from industrialized nations. However, government involvement in such industries, whether through

26 S. D. Krasner, Structuring International Raw Materials Markets, in THE
nationalization of facilities or establishment of wholly or partially government-owned enterprises has, in recent years, altered this situation. To illustrate, in the aluminum industry, governments (of both developed and developing countries) owned over 9 percent of the 1974 smelting capacity. Estimates for the period 1975-1979 project government ownership of 30 percent of the new smelting capacity to be installed during those years.\textsuperscript{27}

In some industries, price leadership by individual firms has resulted in industry-wide adjustments in prices. Minerals and metals are standard products which are sold according to common specifications. Under these circumstances, competing companies experience strong pressures to quote prices which are similar to those set by price leaders. To illustrate, an industry-wide price of nickel (the "producer price") is set by a few large corporations in response to the industry's costs of production and the price incentives judged necessary to stimulate new capacity. Thus nickel stocks held by producing firms increased and the "producer price" rose by 36 percent between April 1974 and September 1975, during a recession which caused declines in other raw materials prices.\textsuperscript{28} Other metals whose prices are more responsive to "industry-wide changes in production costs" than to "supply and demand factors" include steel, aluminum, molybdenum, and magnesium.\textsuperscript{29} In such cases, the price may reflect the short-run cost situation of firms in highly concentrated industries. Supply and demand influences may make themselves felt over the longer-run, for example, through diffusion of ownership. In the aluminum industry new companies, some with significant government participation, have brought new competitive pressures on existing companies, particularly in certain international markets for aluminum products.

Prices of other metals, such as copper, lead, zinc, tin, and silver, experience much wider fluctuations. These metals are traded on the London Metals Exchange (LME) and two — copper and silver — are also traded on U.S. metals exchanges where speculative trading in futures contracts is large. These products are much more subject to supply and demand pressures

\footnotesize{\textsuperscript{27} Industry interviews.\textsuperscript{28} Data obtained from World Bank, Commodities and Export Projections Division.\textsuperscript{29} The "producer price" commonly reported is that of the International Nickel Company of Canada, Ltd. (INCO).}
in the short-run, including those from speculators, than the first group of metals.  

The LME is a "thin" market; that is, one in which volumes traded are small relative to world production and trade. The LME often covers only a fraction of total trade in the products in question. Outside the LME, direct supply contracts between producing companies or state enterprises and consumers account for most transactions. However, the prices registered on the LME exercise great influence over outside sales contracts of copper and other metals. The LME's daily quotations determine the prices obtained by many producers, a practice which has been opposed by some industry figures since in depressed periods (such as 1975), LME prices may be insufficient to cover costs of many existing mines. Such low prices also discourage the new investments needed to ensure an adequate supply when business conditions improve.

The volatility of copper markets is said to distort the patterns of supply and demand, putting buyers and sellers at a disadvantage compared to those who deal in competing products, such as aluminum, whose prices are much more stable. One copper industry spokesman has called for an orderly market in which producers would set a price that would enable production to continue and make new investments attractive. This and similar calls echo the concerns a generation ago of Lord Keynes about the adverse impact of wide fluctuations on output of raw materials. In 1942, Keynes stated that, under conditions of wide price fluctuations, "an orderly program of output, either of the raw materials themselves or of their manufactured products is not possible." "The whole world," he said "is now conscious of the grave consequences of this defect in the international competitive system."

Lead and zinc producing companies have, with mixed results, attempted to limit LME price fluctuations through support of

---

30 Simon D. Strauss, Executive Vice President, ASARCO Incorporated, presentation before the American Mining Congress, San Francisco, California, Sept. 30, 1975.

31 See remarks of J. E. Thompson, President, Newmont Mining Corporation, reported in the Financial Times (London), Oct. 21, 1975.


33 THE ECONOMIST, Nov. 2, 1974, at 74-75.

producer prices. These prices are used in direct supply contracts and also guide prices of ore concentrates. The companies have agreed to maintain a "European producer price" for zinc. This price, set by the producing companies has shown a considerably smaller range of price fluctuations than the LME price. To avoid price cuts in 1975, zinc producing companies agreed to cut back production, and after "unofficial consultations," they also set aside funds which were used to purchase excess supplies on the LME which would otherwise put downward pressure on the producer price. At this writing, they have successfully implemented both policies: Zinc producers agreed to a further increase in the European producer price in November 1975, following the October announcement of the price rise by a major producer. Lead producing companies had earlier tried and failed to implement a similar producer price policy.\textsuperscript{35}

As can be seen from the zinc example, maintaining a producer price requires producing company/consumer relationships that can survive the temptations that downward fluctuations on metals exchanges present to consumers who might divert their purchases away from the producing firms to merchant companies. There must also be a willingness on the part of producing companies to cut back production and employ financial reserves that are sufficient to support extensive buying of excess metals, if necessary. The relative stability of the producer price, which may remain below metal exchange quotations for considerable periods, provides an incentive to consumers to go along with such a system.

Actions by Minerals Countries. Recently, the upsurge in raw materials prices, the success of the Organization of Petroleum Exporting Countries (OPEC), and a desire to exert countervailing power in their foreign economic relations has again led raw materials exporting countries to band together. Formation of producers and exporters associations has received a great deal of attention in developed countries due to concern that they might be harbingers of widespread cartelization of commodities markets.\textsuperscript{36} This section examines mineral country policies so that


the characteristics and possible impact of their actions can be assessed.

A cartel is a grouping which is formally organized to achieve or maintain a price through joint actions. To succeed, a cartel’s members must control a substantial proportion of current production and exploitable reserves. They must face an inelastic demand for their product and have effective means of price-fixing and allocating market shares, and be able and willing to exert significant control over the supply of the commodity reaching the market.\textsuperscript{37}

No mineral countries have yet formed a cartel which meets those criteria. In several cases “informal cooperation,” price leadership, or cartel-like activity are more appropriate descriptions of actions taken by various producing countries to try to influence the market in favor of their minerals. There are several ways other than cartel action by which a group of producers may attempt to influence a market. One means of attempting to counter price declines or raise a price is by stockpiling and/or production cutbacks. Copper countries have introduced cuts in production, with only limited, if any, impact on prices. Some producers have moved toward group action on export and price policy for a particular commodity. The measures recommended by the International Bauxite Association (IBA) are one example of this approach. In other cases, the overall effect on the price level might appear to result from concerted action whereas informal consultations may have been sufficient. Actions taken by several producers have also appeared to result from collusion when actually there was none. A “follow the leader” pricing policy, as in the case of phosphates in 1974, can give the impression that uniformity in price is a deliberate and concerted objective.

Although the three most advanced producer associations — the Inter-governmental Council of Copper Exporting Countries (CIPEC), the International Bauxite Association (IBA), and the Association of Iron Ore Exporting Countries (AIEC) — are not yet cartels in the formal sense, they have given serious consideration to coordinated pricing policies. In November 1975, the Ministerial Council of the IBA recommended that members introduce a minimum pricing policy covering all bauxite exports in 1976. The CIPEC has also announced that consideration

will be given to ways to control prices, now that the membership has been expanded to include Indonesia as a full member, and Australia and Papua New Guinea as associate members.

The prospects for successful price actions by groups of producing countries will be greatly influenced by the business cycle in industrialized countries. Producer associations might very well succeed in raising prices of their exports during a business upturn. In response, consumers might switch to different mineral sources or substitutes through either concerted or individual corporate responses; or governments of consuming countries might intervene — through negotiation or threats of economic retaliation. But these actions are not likely to deter producing countries.

A primary objective of government-owned mining operations, state trading agencies, or governments which successfully exercise control over price and quantities exported through levies and stipulation of minimum levels of mine production is the maximization of earnings from minerals and metals production and trade. In this regard, their commercial objectives do not differ substantially from those of private producing companies. Thus the attempts by tin and copper countries in the slump of 1974-1975 to cut back production and exports were similar to those instituted by some producing companies in industrialized nations. For companies and countries alike, cutbacks may be preferable to the increases in working capital that would be required to finance the stocks that would accumulate if production was not reduced in response to falling demand.38

Tin producing countries have successfully applied export controls and producer restrictions within the framework of the International Tin Agreement, but copper and bauxite countries are still building toward the concerted decision-making ability that would be necessary to hold a floor price for their products.39 Some companies have shown a stronger degree of cohesion in the face of adverse price movements than have groups of producing countries. No group of producing countries has yet shown a capacity to exercise market control comparable to that exercised by Western European zinc producing companies in 1975.

In spite of the similar commercial goals of private and governmental producing and trading organizations, the presence of

38 Mikesell, supra note 36.
governments in developing countries' mineral industries introduces significant differences between producing countries and private corporations. Governments, particularly those of developing countries, face the political necessity of maintaining employment as well as economic imperatives, such as ensuring adequate foreign exchange earnings and safeguarding their balance of payments position. Moreover, since the financial resources of a mineral-producing developing nation are liable to be insufficient to stock significant quantities of its output, it will have considerable incentives to maintain and export its production, even if prices fall severely. These factors may weaken its ability to participate effectively in a producer association which is trying to limit price declines. However, governments can act together without the constraints of possible antitrust actions which apply to private corporations. Furthermore, their international political objectives may be met by participating in a producer association. For example, they may feel that concerted action is necessary to establish a parity of negotiating strengths with foreign interests.

Producers' associations also provide valuable information to mineral-producing countries as well as political encouragement to individual countries. The impact of such associations has been very significant for their transmission of knowledge on mineral arrangements and marketing in participating countries. In any negotiation knowledge is power. Exchanging information within producers' associations on contracts and sharing legal and technical knowhow has, therefore, complemented the already frequent efforts by single nations to renegotiate their mineral arrangements with foreign firms.

Present membership of the IBA, the CIPEC, and the AIEC includes both developed and developing countries. Canada and a number of other countries send observers to CIPEC meetings. Australia's membership in these groups may moderate tendencies toward cartelization since both recent Australian governments have expressly ruled out cartel action on prices. However, without actively engaging in cartel-like decisions, any producing country could benefit from price rises resulting from decisions by other members of producer associations to exercise price

41 Observers at the Nov. 1975 OIPEC ministerial-level meeting were Bolivia, Canada, the Philippines, Uganda, and Yugoslavia.
leadership. If conditions are favorable to price rises, as during the expansionary phase of the business cycle, all producing countries can be expected to attempt to obtain the maximum export earnings possible. These attempts will probably coincide with the price policies of private producing companies.

What are some of the implications of the possibility of successful attempts by producer associations to raise non-fuel mineral and metals prices? Higher prices for non-fuel minerals, or for other raw materials, whether influenced by producer associations or not, do not benefit all developing countries. Consuming countries will face additional import costs if commodity prices go up, just as they now face higher fuel, food, and fertilizer costs. Within the group of developing countries, the gains from pricing policies of producer associations, therefore, will be unevenly distributed. The membership of such groups does not necessarily conform to areas of greatest poverty or need for external resources. Nor is there any assurance that a shift of ownership to governments or private interests in developing countries, or successful attempts to raise prices by producer associations will necessarily bring benefits to the poorest people within producing countries. Moreover, the additional price rises introduced by a producer group will probably complicate governmental and private relations within the group of developed countries as competition for available supplies on "safe" sites for minerals investments accelerates.

None of the above factors is likely to persuade a group of producing nations that they should not attempt to increase to the maximum extent feasible their earnings from minerals production and export. We can therefore anticipate that producer associations or more informal groups of producing countries will try, at a minimum, to raise prices during expansions of business activity and to support floor prices during business downturns.

**Policy Responses to Producer Groups**

For developing countries endowed with raw materials, mutual collaboration makes an essential contribution to strengthening their bargaining power vis-à-vis the industrialized countries and large corporations. Cooperation by exporters includes exchange of information on prices, contractual arrangements for investments and sales transactions, and market information. Among the developing countries, there are advocates of strong cartel action as well as of more limited producer-country cooperation,
but a duplication of the impact of the oil-exporter's action is not likely in most mineral industries. Although most efforts at cooperation among mineral countries will probably fall short of cartelization, strictly defined, producing countries all share the objective of increasing their returns from the production, processing, and export of primary commodities. Australia's cooperation with other bauxite and iron ore producers suggests that the industrialized countries will find that even countries once considered as "safe" sources of raw materials supplies will work with other producers to seek greater and more stable earnings from their exports.

Dealing with the new attitudes among raw material suppliers may be the first step by the industrialized countries toward meeting their commodity objectives. Taking that step will depend on a reassessment of the generally hostile reactions to producing country cooperation that have been common until now. Too often, such an approach toward producer groupings appears to start from the premise that cooperation among producing and exporting countries must be prejudicial to developed country interests. This need not be so, since one of the main objectives of such groupings is likely to be collective bargaining — not confrontation — with firms or governments of industrialized countries on price, earnings, and such issues as technology transfers.

The possibility of negotiating with producer associations or cartels has won only grudging acceptance in the developed countries. It took two years following the initial OPEC oil price rises to establish a consumer-producer forum on energy and other issues, the Conference on International Economic Cooperation. The initial responses of firms and governments of developed countries to other associations were defensive and potentially retaliatory. Possible actions that have been considered include concerted action by consuming countries, or by companies, and official or private stockpiling of selected materials to counter contrived shortages. Use of the economic — or even military — power of industrial economies to force changes in producing-country policies has also been actively discussed.42

Private Responses. In the negotiations with the Jamaican Government following its introduction of the bauxite levies in 1974, aluminum companies apparently cooperated on issues of

42 N.Y. Times editorial and Business Wk., Interview with Kissinger, The Developing World's Challenge in Perspective.
common concern. Although this action by private companies was undertaken with at least tacit U.S. Government permission, most private responses which attempted to deal collectively with a price or production policy of a producer association would be subject to challenge under the antitrust laws of industrialized countries. Moreover, joint private efforts to deal with producer associations face two obstacles: (1) Producer association policies to raise prices are likely to be most effective during an economic upswing, a time when private firms would also find it relatively easy to make upward price adjustments and thus pass the price increase to final consumers. Such a course might be preferable to formal or informal industrial consultations leading to some policies which might expose firms to antitrust measures; (2) In an economic slump when producer association policies would probably aim at cutting production and/or exports, individual or groups of companies would have little prospect of overcoming government controls if the latter were effectively applied.

Official Responses. Developed-country governments have considered strategic stockpiling of critical materials, use of trade policy measures such as export controls to influence producer association policies, conservation, the search for substitute sources through recycling and domestic exploration. In the United States, and very likely in other countries as well, there is a considerable fragmentation of government agencies dealing with commodity issues. This lack of internal coordination has resulted in inadequate monitoring of events and availability of critical raw materials and in calls to improve commodity data systems.

The United States is the developed country with the largest stockpiles of numerous raw materials, including many non-fuel minerals. Other countries have begun to expand their own stockpiles as well. Japan and France are expanding their national stockpiles for economic reasons. In 1975, France reportedly allocated 250 million francs to the purchase of copper and nickel as well as smaller purchases of zinc, lead, tin, molybdenum, and precious metals. Japan recently announced an expanded stockpiling policy. Purely national stockpiles might protect the interests of individual countries but, unless their use was co-

44 Industry interviews.
ordinated, they would probably not ensure that effective downward pressure was put on a price set by a producer association. In general, stockpiles must be very large indeed if they are to have an impact on price trends which reflect fundamental business cycle conditions.

Retaliation through use of critical materials produced in developed countries, such as food, or through controls of exports of needed manufactured goods to the members of a producer association is of questionable value as a tool of economic policy. Usually, alternate sources of food or other goods are available to importing countries and the main impact on other countries’ policies of such measures may well be to strengthen their resolve to maintain the policy. Moreover, effective use of the economic power of developed countries would require a degree of coordination among them which would be very difficult to achieve, given their varying interests in areas of the world which produce non-fuel minerals and their differing degrees of import dependency.

The final and probably most fruitful approach to producer associations is one which would recognize their existence and seek a means to negotiate satisfactory resolution of potential disputes between producers and consumers. (In such negotiations, the hand of consuming countries could of course be strengthened by the presence of national economic stockpiles of certain products.) This approach now has a precedent in the initial meetings of the Conference on International Economic Cooperation. Producer/consumer forums for key commodities offer one means of beginning a cooperative dialogue between producer or exporter associations and consuming countries. At this writing, talks are underway which are expected to lead to the formation of such a forum for copper. Such organizations would not supplant producer groups, since producer group members are not likely to welcome consuming countries into their discussions of ways to better their bargaining positions, but they could, if properly managed, lead to effective bargaining and compromises by both sides on international commodity policies.