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THE MINERAL POLICY OF SELECTED FOREIGN NATIONS  
CONSIDERING DIRECT FOREIGN INVESTMENT  
IN THE MINERAL INDUSTRY

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By

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A Thesis submitted to the Faculty and the Board of Trustees  
of the Colorado School of Mines in partial fulfillment of the  
requirements for the degree of Master of Science in Mineral Economics.

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ABSTRACT

This is a study of the various constituents of a mineral policy and the criteria it should contain if it is competing for direct foreign investment. Items considered are (1) the type of mineral policy, (2) the type of ownership, and (3) the various methods of administration. Included is an example of a proposed model mineral policy and discussions relating to the expectations of the foreign investor and the host country. Excluded are regulations pertaining to the development of petroleum resources.

The mineral policy of three countries--Indonesia, Mexico, and Canada--are presented to illustrate the diverse forms a mineral policy can assume, incorporating a type of policy and ownership, and methods of administration. The effectiveness of the particular type of policy relating to the intentions of the policy maker and the consideration of changes are analyzed.

The principal theme found throughout the study of the policies of several nations is self-determination and the utilization of the mineral resources to establish an industrialized economy in the host country.

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## INTRODUCTION

This paper is the report on a study of the mineral policies of foreign nations in general, indicating the types of policies which differ due to the needs of the host country, the type of ownership in the mineral industry, and the methods of administration. The important facets of the mineral policies of Canada, Indonesia, and Mexico are examined with the major emphasis on those of Canada and Mexico, indicating changes that were or are being made and the reasons therefore. Excluded are regulations governing the development of petroleum resources.

For a comparison of these policies a model mineral policy as advocated by an authority in the field of international mineral legislation is noted.

For the placement of the study in perspective regarding the United States, the following thoughts are stated.

Our increasing reliance upon foreign sources of minerals makes our mineral-oriented foreign investors apprehensive about mineral policies of countries because of three somewhat interrelated problems: (1) expropriations, confiscations, and forced modifications of agreements in foreign countries have severed the flow to the United States of materials produced in foreign countries by American firms and have made the materials more costly; (2) the United States firms are encountering greater competition for foreign mineral supplies; and (3) increasing dependence on foreign sources for necessary mineral

supplies focuses and constrains the United States foreign policy while threatening the stability of the U.S. economy.

DEVELOPMENT PATTERN OF MINERAL POLICIES

Mineral resources differ from many other natural resources such as agricultural in that they are not renewable. Some nations are endowed with an abundance of mineral resources while other nations have few mineral resources.

Historically mineral resources have been used to build an industrial economy in many of the well-developed countries and thus to establish an advanced standard of living. Many of these developed countries, such as the United Kingdom, did not possess these resources within the boundaries of the homeland but acquired them from colonized countries established throughout the world. Patterns of trade were established whereby the raw materials were imported into Great Britain and consumer items fabricated, some of which were exported to the countries where the raw or primary materials originated.

This pattern was common to the other industrialized countries at that time but has since changed. The one factor differing is that the source of raw material originates in countries not controlled politically by the industrialized nations. The need for natural resources, such as minerals, influences the foreign policy of nations, the political alignment of these nations, and resulting trade patterns.

As a result of this evolution of development the world has become divided into the developed or industrialized nations and the developing nations. Prebisch (1966, p. 435-465) presents this as the industrial centers (the developed countries) and the peripheral countries (the developing countries) which supply the raw materials to the industrial centers. In a situation of this type the peripheral countries do not obtain so great a benefit from the exploitation of the mineral resources as they would if the resources were processed into consumer items for domestic use and export. This situation is changing as the developing nations endowed with mineral resources are using their own minerals as a means of diversifying their economic base and progressing toward industrialization.

To this end these nations are establishing mineral policies which vary with the individual country based upon its needs and position of strength.

#### Factors Affecting Changes in Mineral Policy

The traditional view of a mineral policy, based on experience of the 19th century, is concerned with the production of primary commodities for export as the required motivator for economic growth in a developing country.

Critics of this traditional view, Raul Prebisch, Gunnar Myrdal, and Hans Singer, among others, during the 1950's argued that the benefits from the trade of primary commodities are derived by the industrial countries. The foreign and domestic investment--unless properly balanced to develop a diversified industrial economic base--may actually retard the development of an industrial economy in the host country.

The arguments against an export-oriented resource-development program can be separated into four groups: (1) misdirection of revenues from the exports not benefiting the majority of the population, (2) dependence upon exports for which there is a wide fluctuation in revenues, (3) conservation of these export commodities for the future domestic welfare of the country, and (4) "unbalanced" growth dominated by an industry that draws skilled labor away from other sectors.

The first argument is based on the colonial history in Africa and Asia when export industries were created by the foreign investors essentially controlling the flow of revenues from the exports. Often the revenues were used to purchase consumptive items and construct buildings, luxury housing, and other nonproductive investments. There appeared to be no attempt to develop an infrastructure for developing a diversified economic base; the transportation and construction facilities were concentrated within and for the benefit of the export industry alone. However, without direct foreign investment in resource

industries and resulting export industries, it is conceivable that the country may not have advanced beyond a subsistence economy. Some direct foreign investment critics argue that the investors should develop a manufacturing industry instead of or use it to complement the investment in the resources. The incentive to invest in manufacturing is not present if an adequate domestic market does not exist.

The second argument against investment in primary resource industries for export concerns the disadvantages of being dependent upon materials for which there is a world competitiveness, both in supply and demand resulting in wide fluctuations in price and revenue. If this disadvantage is to be countered, it is argued that over a long run countries can benefit more by producing the resource and manufacturing import substitution and export products.

The third argument recommends that mineral resources should be conserved for future domestic use or the usage be governed to avoid a rapid depletion of the country's major source of foreign exchange. Generally the critics are more concerned about the rate of depletion than the ban on extraction per se; a counter argument would be that resource development and production complement each other to result in the discovery of additional reserves. Also the conservation of resources is counter to the theory of the time-value of money resulting from the development and utilization of the mineral resources.

The fourth argument is based on the inference that an industry which could contribute more to the balanced economic growth of the nation cannot be developed because the skilled labor is drawn to the export-oriented industry.

The important question for developing countries is not whether to produce primary commodities for export or to manufacture for home use or export, but how to produce primary resource commodities to make the maximum contribution to the domestic economy. The answer to this question is generally mirrored in the type of mineral policy, which is a reflection of the country's current bargaining position relative to its natural resources. Therefore, the mineral policy of countries will differ, depending upon the source of capital for investment (foreign or domestic), the alternative uses of other resources required to develop the mineral resources, the political atmosphere of the country, the degree of economic development within the country, and the physical characteristics (raw or finished product) of the commodity being marketed.

As with most decisions, there are costs and benefits to be derived when a policy is being implemented.

#### Costs and Benefits of Direct Foreign Investment in the Mineral Industry

Benefits of foreign investment can be categorized as (1) providing a source of capital, (2) providing an established export market, (3) providing a source of technology and training, (4) providing regional development, (5) providing a source of employment and income, and (6) contributing to the balance of payments.

Unfortunately for the developing country, there is not always an internal source of capital with which to develop a resources-oriented industry. If existing conditions provide the required incentive, foreign capital can be attracted to the country to develop these resources. This incentive usually has to offset risks such as the instability of the government and foreign exchange rates. But if the proper rapport is attained and a source of capital is arranged, the remaining benefits of a market, technology and training, regional development, and balance of payments are usually realized.

Costs related to foreign investment are (1) leverage applied by foreign government to domestic policies due to control of resources, (2) misallocation of domestic resources to develop supporting public facilities for resource industry at expense of more needed infrastructure developments, (3) emphasis on capital-intensive rather than labor-intensive industry, (4) loss of full benefits to be derived from resource development in terms of revenues and employment, (5) possible excessive upward pressure on exchange rates, and (6) difficulty of an independent domestic company to enter the industry either at the extractive or processing levels.

It is possible for a foreign government, because of pressure from the investor or for the economic advantage of the nation, to attempt through the control of the host country's natural resources to impose economic and industrial objectives which are not in agreement with the host company's objectives and priorities.

Some countries allow tax incentives and subsidize transportation facilities to encourage development in remote areas with the intention

of providing access to underdeveloped regions. It has proved successful in several nations by not only allowing access to mineral resources but also to previously inaccessible cultivatable lands. The danger in this procedure is that it may be done at the expense of a more productive infrastructure development.

The mineral resource industry is capital-intensive as opposed to labor-intensive industries such as agricultural; labor is generally the most abundant asset in undeveloped countries. Jobs in the resource industry are usually high paying, but there are relatively few of them. (For example--mineral production in Canada in 1970 accounted for about 7 percent of the GNP, but only 1.4 percent of the labor force was directly employed in mining. However, resource development indirectly helped establish employment in other supporting industries. Government of Canada, 1972, p. 48.)

Because of the nature of the industry, backward linkage, full benefit in terms of revenue and employment are often not realized by the host country due to foreign investment in the extraction of mineral resources. The investment is made to procure a source of raw material which is then fabricated into consumer items in company facilities in the foreign country.

Dependent upon the host country's monetary policy, large capital inflows may increase the exchange rate of the country, which increase could hinder the competitive position of exports due to increased prices.

Many of the mineral resource industries are controlled by only a few vertically integrated companies, a situation which could make it difficult for an independent, domestic or foreign, to enter the field in the host country if the resources were controlled by investments of these dominating companies. This would, in effect, eliminate competition and may hinder development of a local industry for manufacture of import substitution items.

#### Types of Mineral Policies

The types of policies relating to direct foreign investment in mineral resources can be classified as (1) countries which are open, (2) countries which desire to attract foreign capital but which negotiate terms, (3) countries which want to protect certain key sectors, and (4) countries which are restrictive.

The mineral policies of the United States and certain provinces of Canada are an example of countries that are open to direct foreign investment but restrictive in particular sectors. The policies may not grant extraordinary incentives to attract foreign investment nor do they discourage investments within certain sectors.

The mineral policy to attract foreign capital through negotiation (type 2) is based on the premise that the country has something of value to offer a foreign investor, and the investor can contribute something of value to the host economy.

Other countries may use a mineral policy which is restrictive in certain key areas to protect certain domestic sectors from the control of foreign interests through investments. The designation of the critical areas, which is an important consideration, appears to be commonly based on clearly defined criteria which vary from one country to another. Most frequently excluded areas are banking, insurance, some parts of transportation and communication, and certain natural resources.

In the countries pursuing a restrictive policy, foreign capital is allowed only as a supplement to internal savings. Japan and Mexico appear to follow this policy.

There are certain ingredients which an ideal mineral policy should include as noted by Northcutt Ely, a noted authority in the field of international mineral legislation. This is herein noted as the model law for a mineral policy.

#### Types of Ownership

The administrative features and the ease with which they may be enforced are varied and are dependent upon the type of ownership which a foreign country wishes to establish by its mineral policy.

Possible ownership arrangements are (1) majority government ownership, (2) minority government ownership, and (3) total foreign private ownership (Mikesell, 1971).

In the majority government ownership, the government usually retains total control or draws a management contract with a foreign investor.

In the minority government ownership, the government has (1) full exercise of voting rights in policy determinations and policy structure, or (2) a stable taxation policy and full exercise of ownership voting rights in policy determination, or (3) a stable taxation policy and no voting rights but full knowledge and participation in company policy decisions.

The total foreign private ownership may incorporate one or combinations of the following general policies. (1) Government is apt to change the tax schedules and regulate the industry closely. (2) Government has long-term tax arrangements and exercises control over production, prices, etc. (3) Government has long-term tax arrangements and fixed, rather than changing, regulations.

Each type of ownership has its advantages and disadvantages from the viewpoint of the host government and the foreign investor. The host government, as the owner of the mineral resources, wants as much control as possible; but because of the need for financial aid, markets, and technical assistance, it must relinquish some control in order to attract the foreign investor. The foreign investor wants as little governmental interference as possible but, because governmental participation may offer more fair play in policy decisions affecting such things as taxation, it is advantageous to have the government participate in some form of partnership.

It is not possible to indicate which type of ownership with resulting controls is the best for all situations due to the political climate, economic structure, and needs of the host government, the corporate structure and needs of the foreign investor, and the resultant conflicts.

As noted previously, there has been a change toward more governmental participation, and the degree of participation may reflect the strength of the bargaining position of the host government, its long-term development plans, and its competitive position regarding other countries with similar natural resource endowments.

POLICY CONSIDERATIONS FOR MODEL MINERAL LAWS

Data used to indicate items which a model mineral policy should contain were drawn freely from "Policy Considerations in the Development of Mineral Laws" (Ely, 1969).

The successfulness of mineral laws is measured by whether or not they result in the maximum economic recovery of the resource and maximum addition to the resource base of the host nations economy. This requires the attraction of large amounts of capital, and in the case of less developed countries, most of it from nondomestic sources. All capital is in competition with other alternative investment opportunities which could return high profits with less risk. The availability of foreign capital for mineral investments generally reflects the magnitude of the foreign consumers' demand for minerals.

The objective is to make the nation's mineral wealth work for its people, to supply their consumer requirements, to supply wealth to the economy, to generate revenues for the state, and to produce foreign exchange. This can be done by making the inherently risky mining business attractive to foreign capital and by competing for capital with businesses and other nations seeking this capital for development of their mineral resources.

The basic considerations for an effective mineral policy are statutes representing the interests of the state or host nation, the foreign investor or miner, and the consumer.

### State's Interest

The state interest is that of a sovereign with complete power over the property within its boundaries whether owned by the state, by its citizens, or by foreigners. The state's primary interest may be in providing a mineral or energy base for its own economy, in obtaining foreign exchange by developing its mineral resources, or in preserving the resources for future use, or in various combinations of these objectives. This power may be restricted by the state constitution or by agreements with other nations or by international law when negotiations are with foreign investors.

Certain general objectives common to most mineral policies are (1) compensation for use of government lands; (2) maximum utilization of the nation's resources through efficient mining and planning methods; (3) development of a project that will provide both tax revenues as well as foreign exchange; (4) use of capital in the areas most important to the overall economic growth of the host country; (5) provide employment and training of the country's nationals; and (6) use of methods that would minimize air and water pollution, erosion, damage to the surface, etc.

### Investor's Interest

The interests of the investor in a mining project, subdivided into reconnaissance, exploration, and production, are principally concerned with the security of tenure. In each of these phases the length of time and amount of money required increases with respect to that required for the preceding stage.

At the reconnaissance stage the investor would want the right to explore an area, preferably on an exclusive basis, of sufficient size and to select the more potential sections as indicated by data developed during preliminary exploration. Also the investor may want the right to import skilled labor and equipment into the country and return it without charges or duties. Some investors would want the right to keep data developed during reconnaissance confidential for a period of time.

If exploration were warranted because of the reconnaissance for mineral potential, the investor should be granted the following essential rights: (1) the exclusive right to occupy and explore for minerals of interest in a specific area based on his own business and technical judgment operating within the framework of the host country's law; and (2) if he discovers mineral, the exclusive right to develop and produce from the deposit on terms negotiated prior to making an investment for exploration.

At the production stage the principal rights required by the investor are (1) security of tenure long enough to recover the investment plus a profit proportionate to the risk and amount of investment required to find and develop the deposit; (2) the right to develop the deposit in accordance with his best interests and technical judgment; (3) the right to sell and dispose of the product; (4) the right to repatriate capital, profits, and equipment; (5) the right of protection against unilateral changes in concession or contract terms, particularly relating to the state's financial demands;

and (6) the right to an impartial court to decide disputes between the investor and the state.

#### Consumer's Interest

Many times the rights of the consumer are not considered when a mineral policy is being drafted; often the consumer is affected by failure to implement regulations to control the fluctuations of prices or to maintain a steady flow of revenues from the exploitation of mineral resources. A law which requires high costs and taxes may eliminate the nation's mineral production from a competitive position in the international market. Conversely, a regulating system which requires the mines to produce and export at a fixed quantity regardless of economic considerations may decrease the total number of units in the deposit. The result may be overproduction followed by decreasing prices until the resource is depleted, at which time prices may increase due to a decrease in supply. The short-term interest of the consumer in surplus production and decreased prices should be weighed against the more reasonable long-range objective to assure the maximum efficient recovery of a depletable resource.

The interests of these three groups, state, investor, and consumer, can be represented by a policy allowing for effective administration, document of title, financial provisions, and settlement of disputes.

Administration--Unless an efficient administrative agency can be established, potential investors may be discouraged no matter how attractive the nation's mineral potential. In line of duty, the agency would have the official power to issue documents of title, keep records and maps in a workable system, grant import licenses for equipment, collect royalties and taxes, grant permits for repatriation of capital and profits, etc. Therefore, the agency should be staffed with competent and trained people capable of dispatching the business within a reasonable period of time.

Document of Title--Documents of title establishing the rights of the investor may be issued separately for the reconnaissance, exploration, and production stages, or the three stages may be covered by one document.

Although the most effective law may grant reconnaissance permits to almost any interested person, provided that he does not interfere with the surface rights of others, they can be exclusive setting aside areas for the interests of a particular party.

Exploration licenses may grant an exclusive right to occupy a stated area for a reasonable length of time and an exclusive right, if minerals are found, to a lease or concession to produce for a period of time specified in terms defined when the investment for development is first risked.

If the state grants an exclusive right to occupancy to explore for minerals, it is entitled to demand that the holder should investigate the potential and not hold the area for speculative purposes. Incentives to prevent this are to restrict the exploration license to a relatively short period with few renewals, to state the minimum requirements in the form of work and expenditures, to require payment of fixed royalties in advance to be credited to the operator when production starts, to relinquish fixed percentages of the area on each renewal, and to tax the surface area increasing the rate per unit in proportion to the number of units held and over time at each renewal date.

Production concessions should be automatically issued to the holder of an exploration license who makes a commercial discovery. If the granted area is large, pressure should be applied to the concessionaire to develop or relinquish some area. Allowances should be made for the payment of a minimum royalty due to adverse market conditions, and not to force production if uneconomic or if it would cause oversupply resulting in a potential uneconomic situation. Duration of the concession should allow the investor to recover his investment plus profit; some countries grant allowances for renewal.

### Financial

Historically, the state's relationship with the mineral industry has been as a tax collector and royalty owner. Within recent years the trend is toward part ownership.

The tax burden on the extractive industry is assessed in almost any imaginative form limited only by the ingenuity of politicians. Taxes should be consolidated into a single tax on net income with some allowance to recognize that return of capital is part of the proceeds from a mine and not income. Some laws provide for this by allowing a depletion deduction which is not subject to taxation.

Royalties, assessed either as a fixed amount of revenue per unit of production or as a percentage of the value of minerals produced, are the economic rent paid to the land owner for the privilege of working the mineral deposit. It is more equitable to assess the royalty payments on the value of the mineral production rather than as a fixed amount, since the fortunes of a price increase or adversity of poor economic conditions are shared by the owner of the property and do not place a burden upon the operator due to conditions over which he has no control.

Bonuses are usually paid to the landowner on the acquisition of title, when the property reaches production or in periodic payments during production. In some areas, particularly when bidding for petroleum exploration permits, acceptance of the bids is related to the quantity of bonus the investor is willing to provide.

Recent mineral laws have seen the emergence of the state as a partner in a mineral operation. The percentage of state ownership varies; Mexico, for example, requires a 51 percent state or domestic ownership for all operations started after the ratification of the present mineral policy. Operations established prior to the enforcement of the mineral policy must be converted to Mexican-majority ownership within 25 years.

#### Settlement of Disputes

Disputes frequently occur even in negotiations developed with the best of intentions; this is particularly so if the concession exists beyond the period of power of the governing power. Also there may be a tendency of the host government to initiate practices to intimidate the investor once the capital expenditures have been made in the development of the resource. The investor is vulnerable as his capital investment, once committed to finding and developing a deposit, is irreversible.

A mechanism should be provided in the mineral laws to allow settlement of the dispute in an equitable manner, preferably by arbitration by neutral parties. An equitable settlement is to the advantage of the host country as well as the investor because once the host country establishes a pattern of settlements inequitable to the investor who has fulfilled the requirements of the law, sources of foreign capital for investment will diminish.

The policy choices of a country wishing to develop its mineral resources are varied and can be expressed in unlimited ways, but one variable prominent in the world's most successful policies is fair play. If rules need to be changed during the lifetime of a mineral operation, the investor and the host country should consider their obligations to society and obtain a settlement which is equitable to both parties in view of the current situation.

The mineral policies of Indonesia, Mexico, and Canada are analyzed as case studies indicating the diverse types of policies and the relative effectiveness of each policy.

MINERAL POLICY OF INDONESIA

The initial mining industry of Indonesia started in 1816 with the exploration for tin; coal mining and petroleum activity started in 1849. These three commodities were the most important sector of the Indonesian mining industry for several decades. The Law of 1907 formed the basic instrument for mining regulations until 1960. The 1907 law allowed mining through (1) a concession agreement granting the operator full control of the mining operation, disposal of the minerals, and the area covered by the agreement; and (2) a so-called 5a-contract between the Government and private entities in which the operator carried out exploration and/or development for the Government (Department of Mines - Republic of Indonesia, 1971).

The 1907 Mining Law was abolished in 1960 as it was deemed to be against the national interests of Indonesia. The 1960 law was revised in 1967 and enacted under Law No. 11/1967 on the Basic Provisions of Mining:

The basic philosophy underlying the present mining regime in Indonesia is that all minerals and mineral deposits are national assets, controlled by the State, and that they shall be utilized to the maximum benefit of the people. As such, in principle, mining is an exclusive business of the State. Under certain circumstances and terms and conditions the Government may authorize Government agencies as well as private entities and individuals to carry out mining on behalf of the State on the basis of a permit so-called 'Mining Authorization,' to the extent the relevant mining activities cannot be conducted by the Government.

The system of mining concession or lease as known in many countries has been abolished in Indonesia; mining by State enterprises, Indonesian enterprises or nationals, can be done only under an instrument or contract--Authority to Mine--issued by the Ministry of Mines. A foreign company using foreign capital can operate in the country only under a negotiated Contract to Work issued by the Government; the contract is negotiated for each separate mining venture.

The exploitation of mineral resources important to the State is limited to specific parties.

The mining of strategic minerals--petroleum, tin, copper, nickel, radioactive minerals, etc.--both in terms of their economics and State defense and security, is reserved to the State (Government Agency, or State Corporation). A foreign company using foreign capital qualifies, but prior to construction and development work the company must reorganize under the laws of the Republic of Indonesia, thus becoming a State Corporation operating for the Government under imposed regulations.

The so-called vital minerals--gold, silver, lead, zinc, etc.--can be mined by a Government-appointed agency, a State Corporation, a Corporation of the Provincial Government, with or without private, national, or foreign interest.

The remaining minerals--clays, gypsum, limestones, etc.--are reserved for mining by the local population on a small scale under the guidance of the State.

Application Procedure for Foreign  
Participation in Mining

The committee in charge of foreign participation in mining is Departemen Pertambangan (Ministry of Mines) Djalan Mentang Raya 3, Djakarta. Information on foreign investment in mining, all correspondence, and negotiations for an Authorization to Mine are handled by this department. Those interested in mining must submit a request to the Ministry of Mines, indicating the mineral and area of interest. If the request is acceptable, the company may obtain data relating to geology and other reports in the interested area, as well as a letter of introduction to local authorities in which a desired reconnaissance may be made. All data obtained by the party during this period must be reported to the Ministry of Mines.

Data which must be submitted when an application is made for a Contract to Work are annual reports of activities and financial status of the business, evidence of their experience and qualifications, and other data so the Ministry of Mines can evaluate the applicant's financial or technical ability. If the application is accepted, a proposal of work will be drafted; and if the proposal is agreeable, it may result in a Contract to Work.

The Contract to Work agreement appoints the foreign company the sole contractor to the Government to conduct the exploration, development, mining, processing, and marketing of the minerals, and performing all related activities. The company then assumes all risks, controls, and manages all activities, and has the right to mine, process, and market any and all minerals which may be discovered in the contract

area unless these specific mineral rights are owned by others.

#### Contract Regulations

The agreement indicates the time periods allowed for stages of the work, rights and duties of the concerned parties, payments to the Government, and settlement of disputes.

Stages of Work--The Contract specifies the stages of work and time allotments for these stages as follows: general survey or reconnaissance--12 months, exploration--36 months, evaluation--12 months, construction--36 months, and operation--360 months. Extensions of up to 12 months for the general survey and 24 months for exploration may be granted. A break-in period or trial operation period of a maximum 6 months may precede the full production period of the operation. A size limitation of so many hectares may be assigned to each of these work stages.

Maximum processing of the minerals shall be done in Indonesia prior to export.

During the general survey, exploration and evaluation periods the company shall relinquish its rights and commitments on non-potential parts of the area originally covered by the contract.

Financing--Prior to the start of construction and development, the company shall reorganize under the laws of the Republic of Indonesia. The company is required to demonstrate its capability to finance the project and must post bond or some form of security; also the company assumes sole responsibility for financing the project.

The company shall open a foreign exchange account advising the Government periodically of foreign currency revenues and expenditures; company expenditures for equipment and services within the country shall be by domestic currency purchased by hard foreign currency; and foreign exchange obtained by sales in excess of that required for purchase of local currency to cover local expenditures may be held abroad by the company in a type of foreign exchange.

Company Commitments--The Government shall be responsible for relocating inhabitants within the mining area, but the company shall reimburse the inhabitants for dwellings, land, and other improvements in the contract area. Upon cessation of operations the land shall be restored to prevent undue erosion or destruction of surface features.

The company has the right to occupy the areas covered by the contract to explore, develop, and construct mining, processing, storage and transportation facilities necessary to bring the deposit into production. The company will comply with existing land use regulations and licensing, when building structures within and without the mining area necessary for developing the operation.

The Government shall be informed through quarterly progress reports. Within one year after the termination of the exploration stage a summary of its topographical, geological, geophysical, mining, ore dressing, and metallurgical investigations, including sample maps, logs, etc., shall be furnished to the Government. Certain of these data, all of which the Government has title to, will be treated as strictly confidential at the request of the company.

The company or its representatives may bring into Indonesia employees with special skills which do not exist within the country. Indonesians shall be trained so that within 5 years after operation starts, at least 75 percent of all positions in each classification category are held by Indonesian nationals. Equal treatment and opportunities shall be accorded to all employees with the company, having the right in selection, assignment, and dismissal within terms set forth by the Government.

During the company's activities within the country domestic materials and services shall be employed as much as possible.

The contract shall be in effect for a period of 30 years after production has started and is renewable by mutual agreement of the company and the Government. The company may, because of uneconomic or other unfavorable conditions, suspend the operation in part or entirety after consultation with the Government. If the company defaults on any binding provision of the contract, it shall have a 180-day period after notification to correct such default; the correction period may be lengthened if it is impossible to correct the default in the shorter period of time. If the default relates to monetary payments, the company has a 30-day period in which to correct the situation.

Disputes which cannot be settled through mutual agreement shall be referred to a Board of Arbitration consisting of three members, two arbitrators, and an umpire. One arbitrator is selected by each party and the umpire is appointed by the arbitrators. The parties shall agree to abide by the arbitration adjudicated by the International Centre for Settlement of Investment disputes if said disputes cannot be settled by mutual agreement.

Revenues to the Host Country--Revenues to Indonesia are in the form of land rents in the contract area, royalties upon production of the minerals, sales, taxes, and a documentary stamp duty tax upon the application.

Land rent rates differ, dependent upon the stage of work and type of deposit. During the reconnaissance stage the payment is due annually based on \$0.005 (U.S.) per hectare, whereas during the exploration, evaluation, and construction periods the rate is \$0.10 (U.S.) per hectare. During the production period, if the deposit is a lode or an alluvial type, the rate is \$2.00 (U.S.) per hectare; the rate is \$1.00 per hectare for lateritic and other extensive surface deposits.

Royalties for the various minerals are shown in Table 1.

TABLE 1. - Royalty Rates of Selected Minerals  
Mined in Indonesia, U.S. Dollars

Mineral	Per kilogram of element in mineral or ore	Per ton of washed and unwashed mineral	International price of metals per metric ton
Coal		0.10	
Graphite		.25	
Iron in iron ore		.25	80
Iron in complex ore	0.005		80
Bauxite		.25	500
Chromium		.25	
Copper	.025		700
Lead	.015		300
Zinc	.010		300
Manganese		.35	
Gold	11.00		1,100,000
Silver	.25		25,000
Platinum	27.50		2,750,000
Molybdenum	.07		3,240
Gravel		.05	
Gypsum		.20	
Tin		210	3,000

Source: Ministry of Mines, Foreign Participation in  
Mining in Indonesia, 1967-1970, (1970).

A corporation or income tax is levied on the basis of the company's taxable profit; the tax rates as per Presidential Instruction No. 18, 1968, are in Table 2. As indicated, there is some leniency during the first 10 years versus remaining years of operation.

There are no import duties on equipment required for the operation, and this equipment can be exported free of duty or sold in Indonesia, with allowance for domestic regulations regarding customs and import laws and regulations.

#### Effectiveness of the Indonesian Mineral Policy

Indonesia's mineral policy, as written, appears to incorporate all the fundamental requirements of the model minerals law advanced by Northcutt Ely. The country retains the ownership of the natural resources, granting, by means of a contract, a foreign investor the right to explore and develop the mineral deposits. The future welfare of the nation is protected by allotting the development of strategic minerals to companies organized under laws of the Republic of Indonesia. Most industrial minerals can be mined only by Indonesian nationals.

Although tenure is guaranteed for 30 years and can be extended by mutual consent, specific time periods are stated for stages of work involving reconnaissance, exploration, and development. This provision eliminates holding of mineral potential lands for indefinite time periods. Also taxes are levied per unit of area covered by the contract which encourages the relinquishment of low-mineral potential land.

TABLE 2. - Corporation Tax Rates in Indonesia, Percent

			Tax rate	
			Year 1 through 10	Year 11 through 30
Copper	Manganese	Chromite		
Lead	Mercury	Iodine		
Zinc	Molybdenum	Natural asphalt	35.0	42.0
Iron	Antimony	Diamond		
Titanium	Asbestos	Sulfur		
	Kaolin	Jarosite		
Nickel				
Cobalt			37.5	45
Bauxite				
Tin			40	48

Source: Ministry of Mines, Foreign Participation in Mining in Indonesia, 1967-1970, (1970).

Taxes are based on profits--not value of production--allowing the investor and the host country to share in the risk due to price fluctuations and unexpected operating difficulties.

The Indonesian mineral policy exhibits qualities of a type which desires to attract foreign capital but on negotiated terms. Total foreign capital is used to develop the industry under terms specified in a contract for each operation.

Allowances are included for the settlement of disputes, but because of the relative newness of the current government it is difficult to evaluate the effectiveness of the mineral policy in this report.

Indonesia is forced to use total direct foreign investment because of the lack of domestic funds available for development of a mineral industry utilizing its large mineral potential.

The corporate tax schedule grants a reduced tax rate during the first 10 years of operation.

Since 1967 through 1969 six companies using foreign capital have negotiated for "Authority to Mine" contracts to produce from deposits of nickel, bauxite, and copper investing in excess of \$600 million. Indications are that about 22 companies have applied for contracts to explore for various minerals (Ministry of Mines, 1970).

MINERAL POLICY OF MEXICO

Records indicate mining began in Mexico before 1521; mining, milling, smelting, and refining have played an important role in the economic, social, and cultural life and development of the Nation.

The Mexican mining industry has been regulated by ten different sets of Mining Laws since the first regulations were formed in 1526. Currently, the mining industry is governed by Federal Legislation under the Mining Law of April 20, 1961 (Miranda, 1968).

Paragraph 4 of Article 27 of the Political Constitution of the Mexican United States states:

The direct dominium of all of the natural resources of the continental shelf and the submarine shelves of the islands; of all the minerals and substances that occur in veins, horizontal veins, masses or deposits, constitute deposits whose nature is different from the components of the land, such as Minerals from which metals or metalloids used in industry are extracted; the deposits of precious stones, of rock salt, and the salt mines formed directly from marine waters; the products derived from the decomposition of rocks, when their exploitation requires subterranean work; the mineral or organic deposits susceptible of being used as fertilizers; the solid fuel minerals; petroleum and all solid, liquid or gaseous hydrogen carbides; and the space situated above the national territory in the extension and terms set by International Law belong to the nation.

Many social reforms carried out during the last 50 years, have resulted in a more generalized distribution of land and wealth and may be responsible for Mexico's political, monetary, and social stability. Most of the mining interests prior to 1960 were owned by English, French, and American companies and individuals; few, if any, Mexicans owned stock or held important management positions in the companies.

Also many of the land concessions having mineral potential were being held for future consideration and not being actively explored.

The decision to industrialize the Mexican economy opposed the interests of the foreign-owned and foreign-controlled companies which were mining, exploring, producing, and processing the minerals for export and further beneficiation and fabrication outside Mexico.

The establishment of regulations which discouraged domestic and foreign exploitation of mineral resources during the 1950's resulted from the following considerations (1) an effort to change the attitude of the foreign investors to industrialize the minerals within Mexico, (2) a reliance upon markets of raw materials supplied to foreign nations with associated fluctuating prices, (3) the shift of national interests to other elements of the economy such as agriculture, and (4) the attitude that the mining industry was dangerously depleting nonrenewable natural resources.

Taxes such as property, income, production, and export taxes on minerals and mineral products were increased. Minerals such as phosphates, sulfur, and potassium or specified mineralized areas were declared to be national reserves to be mined under special conditions preferably by Mexican nationals. Investments were greatly reduced and new mining ventures were few. The mining industry, once a major contributor to the economy and social structure of the nation, was reduced in importance and prestige.

In 1958, measures considered to revitalize the mining industry included nationalization, Mexicanization, or tax relief for the benefit of the foreign owners together with Mexican acceptance of a secondary role. Mexicanization was adopted in which Mexican nationals own 51 percent of the operation.

Some of the mineral resources may be classified, because of importance to the nation, as national mining reserves either by commodity or area. All placer ores and commodities such as atomic materials and others used for nuclear reactors, commodities essential for industrial development of the country, and some mineralized areas placed in the National Mining Reserve may be exploited by government mining entities, by companies with government participation, or by private enterprises under special concessions. Commodities or areas not open to exploitation are reserves set aside for future supply of the country.

Concessions are granted for mining, beneficiation, and special concession for exploiting National Mining Reserves.

Application Procedure for Foreign  
Participation in Mining

As of July 1968 there were as many as 37 mining agencies in Mexico, and application for concessions are filed with the appropriate agency. Data required when applying for a mining concession are location, status, and description of the area to be included; name of the company and its origin, size of the area; substances to be exploited; and proof of the financial and technical capabilities of the company. This application is then forwarded to the Ministry of National Patrimony which has the authority of approval. Approval consists of a certification allowing the applicant separately or jointly with professional personnel to enter the area to perform work permitted by the Mining Law, its regulations, or special orders from the Ministry of National Patrimony. The Law provides that only Mexican nationals and companies organized in accordance with Mexican law and those which have the majority of their capital subscribed by Mexicans may obtain concessions.

Concession Regulations

This particular mineral policy requires participation of Mexican nationals at a ratio of 51 percent or greater, depending upon the type of concession. Although existing foreign operators had 25 years within which to Mexicanize, the operation incentives are provided to quicken the changeover to the requirements of the Mining Law. The concessions are (1) common concession for mining, (2) special concession for mining, and (3) a concession for beneficiation.

Common-Mining Concession--Upon approval of the concession, the applicant has 60 days within which to construct the claim corners, and pay for the stamps for the concession title and a title fee for registering in the Mining Public Registry. Mining concessions lapse for failure to pay surface taxes, to perform and prove the required assessment work within the allotted time, and to acquire the prescribed Mexican ownership in the case of a company. Allowances are made due to uncontrollable economic or technical reasons at the discretion of the controlling government agency.

Each concession covers a single mining claim of 500 hectares (1,235.5 acres) maximum and may be requested for a maximum of eight different substances. If different substances are found, the substance may be added to the concession, provided it is not in the national mineral reserves. Only the authorized substances may be explored for, extracted, beneficiated, and used.

Surface areal limitations for the various commodities are: coal--8,000 hectares; sulfur, manganese, tin and sodium and potassium salts--4,000 hectares; gold, silver, lead, copper, zinc, gypsum, barite, fluorite, silica, iron, titanium, antimony, graphite, diatomaceous earth, refractory earth, phosphoric rock, kaolin, and bauxite--3,000 hectares; and mercury, tungsten, molybdenum, and other substances not enumerated--1,000 hectares. When common concessions cover substances in different surface groups, the total area is computed separately for each group. The surface area of the concessions is computed for 33 percent of their surface during the

exploration period of 5 years, in the course of which the area of concession is reduced to the maximum allowable, dependent upon the commodity. During the exploration period, the operator shall notify the Ministry of National Patrimony each year of the exploration accomplished and the areas relinquished.

Time period of a common mining concession is 25 years and may be indefinitely extended if during the last 3 years of the initial period the operator has complied with the regulations.

Rights of the operator or owner of a mining concession are (1) to have access to the area covered by the concession for exploration and exploitation; (2) to construct necessary facilities to mine and beneficiate the resource; (3) to carry out, except in coal mines, underground connections across assigned or concessioned land to the surface to improve the economics of extracting ore, to remove water, or to ventilate the mining operation; (4) to acquire easements required for the development of the concessions in the judgment of the Ministry of National Patrimony; (5) to use available water from the mining concession or surplus water from other sources if necessary; and (6) to have preferential rights to concessions on open fractions between the concession and adjoining land.

This type of a concession can be obtained only by Mexican nationals and Mexican companies of which Mexican nationals own not less than 51 percent of the capital.

Special-Mining Concession--Special-mining concessions are issued on a competitive bidding basis for the exploitation of minerals classified as National Mining Reserves. The owners of the special mining concession have the same rights and obligations as the owners of the common mining concessions. The application listing the greatest advantage for the economic and industrial development of the region and country, including the best technical and economic proposals, is granted the concession.

This type of a concession can be obtained only by Mexican nationals or by companies organized in accordance with Mexican law and in which 66 percent of the corporate capital is owned by Mexican nationals.

Beneficiation-Plant Concession--Beneficiation plants are defined as industrial complexes and their accompanying facilities which mechanically or metallurgically treat national or foreign mineral substances. This includes smelting and refining operations to produce concentrates and metallic compounds, metals, metalloids, or nonmetallic minerals which may be used by other industries. Concessions for installation and operation of beneficiation plants are issued by the Ministries of National Patrimony and Industry and Commerce to owners of mining concessions and to government mining companies. Plants with a capacity less than 100 tons of ore per day do not require a concession.

Beneficiation plants are divided into two classes, those for private service and those for public service. Private service plants must process a maximum of 15 percent of ores produced by the public at rates set by the Ministries of Finance and Public Credit, of Industry and Commerce, and of National Patrimony. Public service plants process ores from many sources similar to U.S. plants treating custom ores.

The concessions are granted for 25 years, renewable for an indefinite period of time provided that the concessionaire has complied with the required regulations during the last 3 years of the initial 25-year period.

Obligations of the concessionaire are (1) to start and finish construction and provide services on the set dates; (2) to advise the Ministries of National Patrimony and of Industry and Commerce of any suspension of operations; (3) to operate efficiently and maintain the plant in good condition; (4) to discard wastes from the process on lands contained in the concession and discharge liquid wastes free of dangerous substances; and (5) to present data to the government upon request and allow periodic government inspection.

#### Organization of Mining Companies

Mexican national participation in the mining companies is through the issue of stocks of which 51 percent must be owned by Mexican nationals for common concessions, and 66 percent must be owned by Mexican nationals for special concessions.

The company must be registered with the appropriate government agencies indicating the ownership of the corporation; if the percent ownership by Mexican nationals becomes less than the minimum required for Mexicanization and is not corrected within a stated period of time, punitive action is started by the government.

If the management of a company is by one individual, he must be a Mexican. If the management is by a board, the majority of the members must be Mexican.

#### Revenues to the Host Country

Major revenues collected from the foreign investor in a mining concession are through production, export, and income taxes, and imposition of import duty on equipment and material. Other revenues are a portion of the profits realized on a prorated basis because of the Mexican ownership.

The production tax is based upon a certain percentage of the official value of the taxed products; the rate depends upon the degree of processing within the country. The rate decreases as the product is further processed; the purpose is to encourage mining companies to treat and process the ore in Mexico, and thus provide employment of domestic labor.

Also the tax increases as the price of the commodity increases, and decreases as the price of the commodity decreases. A basic price per unit is set by the government to obtain the value of the commodity; the basic price is then adjusted by an official unit price which closely follows the New York market quotations.

The export tax is levied on any mineral product which is exported from Mexico. The tax rate depends upon the stage of refinement; it is higher for crude ore and lower for refined metal. The amount of export tax is based on the official value of metal content of the product.

The combined production and export taxes (ad valorem) and the official values of some minerals as of 1968 are shown in Table 3.

The income tax and import duties are equivalent to those of the various other industries.

#### Foreign Investment Incentives

Tax reductions are granted to Mexican owned and Mexicanized mining companies; a reduction which applies may be one of these two: (1) an automatic 50 percent reduction in the export and production tax; (2) a minimum of 50 percent to a maximum of 75 percent reduction in export and production taxes. The latter tax reduction is limited to small or medium-sized producers.

In addition, another special tax reduction is granted to Mexican nationals and Mexicanized companies exploring and developing mining concessions in less developed areas with related problems of accessibility, or concessions with low-grade ores or special inherent exploitation problems.

Special tax agreements resulting in a 100-percent reduction of production and export taxes for a given period of time in addition to a maximum of 40 percent reduction in income taxes for a maximum of 5 years may be obtained.

TABLE 3. - Combined Production and Export Taxes on  
Certain Minerals Mined in Mexico, 1968

Mineral	Official value per unit (Mexican currency)	Ad valorem rate, percent
Copper ores	12.42 net kilo	26.75
Copper concentrates or precipitates	13.41 net kilo	26.20
Copper (refined)	14.63 net kilo	27.50
Tin ores	40.24 net kilo	25.00
Tin concentrates	38.47 net kilo	25.00
Sulfur (natural ore, foundried, precipitated)	501.86 gross ton	25.00
Iron in natural minerals	.097 net kilo	25.00
Lead ores	2.21	32.00
Lead in amounts of more than 1,000 kms. by RR from any smelter or mill	2.21	26.90

Source: Miranda (1968).

Generally, the companies are required to invest these tax gains in exploration, roads, machinery, and equipment.

#### Effectiveness of the Mexican Mineral Policy

The stated objective of the Mexican mineral policy was to use the nation's natural resources to develop the domestic economy, primarily through industrialization. The natural resources were to be developed by Mexican nationals or through concessions granted to companies in which Mexican nationals owned 51 percent of the operation.

This type of policy is restrictive as related to direct foreign investment, not only regarding ownership but also the type of minerals which could be mined by the foreign participating companies.

It follows closely the principles outlined in the model mineral law and might be considered a forerunner in a direct participation policy versus expropriation.

The Mexicanization of the sulfur industry in 1966 was preceded by export quotas and regulations requiring increased exploration to enlarge the reserve base. The Mexicanization policy was implemented because of nationalistic political pressures and the desire to establish an industrial economy. During the Mexicanization procedure there were many international accusations directed toward Mexico because of the international trade of sulfur and the short supply situation. Mikesell (1971, p. 297-311) affords an excellent explanation.

By offering tax reductions and subsidies, the government encourages Mexicanization of the mineral industry. Also by increasing the production and export taxes on raw materials versus refined materials, the government encourages the construction of processing facilities within the nation, thus employing domestic labor. The special tax incentives encourage the development of marginal low-grade ores and establishment of a mineral industry in remote areas providing employment and transportation networks.

Mexicanization leaves the control of the industry with Mexican nationals and allows the host country to voice some control over the destiny of the use of their national heritage--the natural resources.

At the same time foreign investors are attracted by the mineral potential of the country, the tax incentive provided to Mexicanize their holdings, and the political stability of the government.

The changes in the value of the mineral production, the production and consumption of specific metals, and the export of these metals provide an indication of the growth of the mineral industry and industrialization of the economy. Value and production would indicate indirectly the attraction of foreign capital to develop the resources, but a decrease in export of raw materials would indicate progress in industrialization.

The value of mineral production increased from 3.4 billion pesos in 1957 to 6.2 billion pesos in 1971--an 82 percent increase (Table 4).

**TABLE 4. - Value of Mexico's Metallic and Nonmetallic Mineral Production, 1957-1971, million pesos**

<u>Year</u>	<u>Total value</u>	<u>Metallic minerals</u>
1957	3,422.6	2,645.2
1958	3,028.8	2,190.0
1959	3,210.2	2,240.0
1960	3,254.5	2,258.9
1961	2,972.7	2,000.0
1962	3,028.2	1,910.1
1963	3,380.1	2,201.2
1964	3,793.5	2,401.9
1965	4,055.0	2,600.0
1966	4,509.5	2,827.9
1967	5,169.6	3,910.2
1968	5,820.7	4,559.6
1969	6,369.1	4,932.4
1970	7,013.8	5,759.9
1971	6,199.8	4,043.6

Source: Anuario Estadístico de la Minería Mexicana 1963, 1967, 1970, and 1971 editions. Consejo de Recursos Naturales No Renovables, Sumario Estadístico de la Minería Mexicana, Departamento de Estudios Económicos. Various pages.

Estadísticos Minerometalúrgica Production Exportación. 1968-1969, Secretaría de Industria y Comercio. Dirección General de Estadística.

The production of copper increased from 60.7 thousand tons in 1957 to 63.2 thousand tons in 1971--a 4.1 percent increase (Table 5). Domestic refinery production increased 90 percent. The most significant indicator is the increased consumption of 38.3 thousand tons from 1957 to 1971--an increase of 250 percent. Also, the exports of refined metal declined 8.6 thousand tons or a 2,870 percent decrease.

Although similar data for lead show a decrease in mine production, consumption of refined lead has increased 230 percent and exports have decreased about 140 percent (Table 6).

These data indicate that the process of industrialization requiring more processing and domestic use of copper and lead metal within the nation has been successful.

Though received initially with some misgivings, the policy of Mexicanization met with an encouraging response from foreign mining companies because of the prospect of important tax reliefs.

There is no shortage of foreign capital in Mexico; it is rather the lack of total investment that is a cause for concern to the government, which is presently attempting to alleviate the problem by a series of tax reforms and measures now before Congress and designed to step up productivity and public investment (Mining Journal, 1972m, p. 21-22).

TABLE 5. - Salient Statistics of Copper Production and Consumption in Mexico, 1957-1971, metric tons

Year	Mine production, copper content	Smelter production	Refinery production	Consumption of refined copper	Exports of refined copper
1957	60,700	59,000	27,600	15,300	8,900
1958	65,000	62,000	27,700	19,600	8,200
1959	57,300	54,700	29,300	17,400	13,200
1960	60,300	51,700	28,200	19,800	6,300
1961	49,300	42,000	26,700	19,600	3,400
1962	47,100	52,000	30,600	22,100	5,000
1963	55,100	50,000	30,700	29,500	2,800
1964	52,100	48,300	34,900	32,000	600
1965	55,200	47,200	46,400	36,100	800
1966	56,500	51,300	47,500	30,100	300
1967	56,000	50,200	47,100	34,200	-
1968	61,100	52,500	51,500	56,000	100
1969	66,200	56,600	57,000	64,900	100
1970	61,000	59,600	53,700	54,000	600
1971	63,200	61,900	52,600	53,600	300

Source: Metallgesellschaft Aktiengesellschaft. Metal Statistics, 1967, 54th Annual Issue. Frankfurt Am Main: p. 193.

Metallgesellschaft Aktiengesellschaft. Metal Statistics, 1972, 59th ed: Frankfurt Am Main, p. 209.

TABLE 6. - Salient Statistics of Lead Production and Consumption in Mexico, 1957-1971, Metric Tons

Year	Mine production, lead content	Refinery production	Consumption of refined lead	Exports of refined lead
1957	214,900	200,900	28,200	155,800
1958	201,900	195,700	25,500	143,400
1959	190,700	189,000	26,200	136,100
1960	190,700	166,700	29,800	131,600
1961	190,000	190,400	37,600	150,500
1962	193,300	181,600	47,500	123,500
1963	190,000	182,300	56,200	124,400
1964	174,800	170,000	62,100	93,400
1965	169,700	172,400	71,000	96,700
1966	182,100	181,800	69,600	98,600
1967	163,900	168,400	76,200	83,900
1968	174,200	180,300	86,500	82,000
1969	170,900	175,900	99,200	73,000
1970	176,600	180,300	94,300	77,600
1971	156,900	158,800	93,200	67,300

Source: Metallgesellschaft Aktiengesellschaft. Metal Statistics, 1967, 54th Annual Issue: Frankfurt Am Main, p. 136.

Metallgesellschaft Aktiengesellschaft. Metal Statistics, 1972, 59th ed.: Frankfurt Am Main, p. 150.

"One problem that Mexicanization has brought," one Mexican mining expert explained, "is that some investments are held up because of the difficulty in finding Mexico's 51 percent of the money. The foreign 49 percent is more than available, but Mexico's limited domestic resources are still attracted by higher profits in the manufacturing sector" (Pay Dirt, 1971, p. 14).

The Mexicanization of Anaconda's large Cananea copper mine in Sonora late in August 1971 marks the completion of a 25-year process to place the country's mining sector in Mexican hands.

Today 98.7 percent of mining production comes from companies with at least 51 percent Mexican ownership. The remaining mines are too small and unprofitable to be of interest to the Mexican government.

Ironically, Mexicanization, which seemed an extreme measure when it began in the 1940's following the 1938 nationalization of the Mexican oil industry, is now seen as guaranteeing foreign raw materials.

The completion of Mexicanization has consequently brought about a sharp increase in investment in the mining sector as foreign interests recognize the difference between this policy of "institutionalized nationalization" and the nationalization in parts of South America.

Since 1961, Anaconda has been seeking a method of Mexicanizing the Cananea operation without adversely affecting Anaconda's financial investment in the property. The principal problem was the shortage of Mexican capital available to purchase a majority interest in the property (Anaconda Co., 1971, p. 9).

The management of The Anaconda Co. asked the Mexican government to nationalize the Cananea property as "there will be better possibilities of increasing our production and expanding our installations if we are associated with Mexican interests."

Upon sale of the majority equity interest, Anaconda retains a 49 percent interest in Cananea, with the right to name seven of the 15 members of Cananea's board of directors. Technical assistance in mining and metallurgical operations and processes provided by Anaconda will be on a cost-reimbursement basis.

#### Changes in the Mineral Policy

The law, effective in 1970, required mining firms that included smelter and mines in population areas having more than 100 employees to provide housing or an equivalent allowance. Any employer operating more than 3 kilometers from a town must also provide housing (Ashley, 1969, p. 497).

Except for technical and professional employees that may not be available, 90 percent of the labor force must be Mexican.

A bill "To Promote Mexican Investment and Regulate Foreign Investment" is now before the Mexican Congress for consideration during the first quarter of 1973.

The foreign investment bill is new and its details have not been widely known except that it is the intent of the Mexican government to limit foreign investment to no more than 49 percent of any new enterprises. This is not a change from the Mexicanization program

in which 51 percent of the equity interest must be owned by Mexican nationals and the majority of the board of directors must be Mexican nationals (Long, 1973, p. 1E and 6E).

The American investors do not want the Mexicanization policy to apply to middle-management level dealing with administrative and technical functions where there appears to be a shortage of Mexicans willing to devote their talents to American firms.

The proposed new law would establish categories of activities in which foreign investment is welcome and would establish ground rules for the prospective foreign investor.

Guidelines for foreign investment to be desirable are (1) it must complement and not displace domestic capital in Mexico; (2) it should seek new fields of action and not those already covered by domestic capital; (3) it should associate with Mexican capital, with control resting in the Mexican interest; and (4) it should give preference to the employment of Mexican citizens wherever possible.

Mexico's foreign-investment philosophy is that Mexico favors foreign investment, but only in fields and ways that are advantageous to Mexico.

In a recent publication Campillo Saenz, Mexican Undersecretary of Commerce, was quoted as follows:

Mexico now looks down a new road that will make our nation more independent and give greater freedom to all Mexicans. Foreign capital can be a useful complement to accelerate our process of development but must conform to the new goals we have set for ourselves. It must among other requirements associate with Mexican capital on a minority basis as a general rule, give preference to Mexican citizens in the employment of technical experts and administrative personnel, provide advanced technology and produce export goods that can also be sent to foreign investors' markets. (Pay Dirt, 1973, p. 14.)

MINERAL POLICY OF CANADA

The Canadian mineral laws are predicated on the British common law concepts in which mineral rights were connected with the surface rights; hence many mineral deposits are privately owned. Conversely the Spanish concept, based on the Regalio Law, separates the mineral rights from the surface rights, retaining the minerals as the property of the state or the people. Early mining laws in Canada granted the discoverer of a mineral deposit the mineral rights on his staking and recording the claim; rights to the claims could be retained by performing periodic assessment work. Title to the claim containing the mineral deposit and surface land could be subsequently acquired. The right to a mineral title has been replaced by a right to lease in which the mineral title is separated from the surface title. The leasing system for metallic, nonmetallic, and fossil fuels is designed after those governing petroleum.

Titles to minerals on public lands are administered by the Provincial governments, except in the Northwest Territories, the Yukon, and lands of the Indian reserves and National Parks where title is held by the Federal Government. Each of the 10 Provincial governments has its own mineral laws regarding mineral rights, conservation, taxation and royalties, operating and safety rules, and other controls on the mineral industries. In addition, there are Federal laws which apply to the mineral activities in the province.

Within the last few years there has been much criticism of the tax incentives favoring the mining industry and the foreign control of the Canadian mineral industry. Consequently, some laws have been changed regarding taxation, and other laws are being proposed to decrease the control of foreign investors.

Application Procedure for Foreign  
Participation in Mining

As a general rule, any individual 18 years old and any company authorized to do business in Canada may acquire rights to minerals on Crown lands in all provinces and territories. Exceptions to this are the Northwest Territories where leases may be secured only by Canadian citizens or companies incorporated in Canada with 50 percent Canadian ownership or with specified opportunities for Canadian participation.

Control over the natural resources in Canada is largely a matter of provincial jurisdiction. Although the pertinent Acts in force in the various provinces are enactments of provincial legislatures, several Federal Statutes have a direct effect on mining, oil, and natural gas enterprises.

These Statutes are (1) Canada Corporation Act; (2) National Energy Board Act; (3) Atomic Energy Control Act; (4) Regional Development Incentives Act; (5) Emergency Gold Mining Assistance Act; (6) Cape Breton Development Corporation Act; (7) Coal Production Assistance Act; (8) Canadian Coal Equality Act; and (9) Atlantic Provinces Power Development Act.

With the exception of the Atomic Energy Act that places control of production and sale of radioactive material with the Atomic Energy Control Board, the remaining Acts provide government assistance for mineral resource production (Hodgson and Bears, 1969).

The Department of Energy, Mines, and Resources administers the Federal laws of general application throughout Canada; the department performs geological surveys, investigates mines and mineral deposits, and publishes statistics and maps. In addition, the National Energy Board, Atomic Energy Control Board, and Dominion Coal Board have some important controls concerning mineral development.

Because of the variation in the mineral laws of the provinces and territories in Canada only those of British Columbia will be illustrated (Ely, 1970).

#### Mineral Laws of British Columbia

Mineral rights are obtained through a leasing system which separates surface and underground rights.

Before a person can prospect for, locate, and record mineral rights he must acquire a Free Miner's Certificate. There is no limit to the number of claims which can be located; size of the claims may not exceed 51.65 acres (1,500 feet by 1,500 feet). Claims must be recorded within 15 to 30 days of staking and can be held as long as annual work worth \$100 is performed, or an annual payment of \$100 in lieu of annual work is made. Up to 40 claims may be worked as a unit.

After \$500 of assessment work has been completed, or a payment of \$500 in lieu of work, and survey of the claim, the holder may apply for a certificate of improvement and a mineral lease. A lease has a time limit of 21 years and is subject to annual rental payments and assessment work, both based on an acreage basis.

The Placer-Mining Act of 1960 provides laws concerning the location of minerals occurring in natural unconsolidated material. There are three types of placer claims: (1) creek diggings, (2) bar diggings, and (3) dry diggings. Leases of up to 80 acres are granted for terms not exceeding 20 years.

#### Revenues to the Host Country

The principal sources of revenue are obtained through income, excise, and custom taxes.

The Federal income tax laws impose the largest tax burden on the mineral industry--18 percent of the first \$35,000 and 47 percent in excess of \$35,000; this is in addition to provincial mining, social services, property, income, and various minor tax levies.

Excise tax is 12 percent, with certain exceptions, on the value of all goods produced or manufactured in Canada, or imported into Canada.

The customs tariff applies mainly to mining equipment and machinery which are imported but could have been purchased from Canadian firms manufacturing similar equipment.

Royalties on mineral production may be levied, but to date only a royalty on iron ore has been imposed. All mining companies are assessed a provincial net income tax of 15 percent after the first \$10,000 income. An acreage tax is imposed on Crown granted claims when less than \$200 annual development work per claim is done.

#### Foreign Investment Incentives

Tax reduction allowances are depreciation, depletion, and an exemption from taxation during the first 3 years of mine production. Changes have been made in the depletion and tax-exempt regulations. As of January 1972, the depletion allowance for most minerals has been changed from 33-1/3 percent of profits as long as the property has been in production, to Canadian \$1 in depletion allowance for every Canadian \$3 expended for prospecting, development, mining, and processing. The tax-free 3-year exemption regulation expires in 1974.

The Provincial governments often construct the transportation facilities--highways and railroads--to the property of the mining operations. Although the mining industry may be the greatest benefactor, the transportation network does provide access to remote areas which otherwise may not be opened to other industries such as lumbering and agriculture.

### Effectiveness of the Canadian Mineral Policy

Initially the prime purpose of the Canadian mineral policy was to develop the nation's mineral resources, with the obtaining of the necessary capital investment, technical assistance, related marketing facilities, and foreign exchange through exports. For the fulfillment of these objectives, the policy provided incentives, principally in the form of tax reductions to attract foreign capital, technology, and the related marketing facilities. Other items influencing the investment were the potential of a mineral industry previously demonstrated in the lower "48" states of the United States in the North American Cordillera which extends through Canada into Alaska, the political stability of the government, and the nearness to the United States and Japanese markets.

The type of mineral policy relating to direct foreign investment in Canada ranges from open to restrictive because each Province and Territory establishes its own mineral laws. Any company authorized to do business in Canada may acquire mineral title to public and most private lands; mineral titles are granted independently from surface rights in all parts of Canada. Exceptions to the rule are the Northwest Territories where leases may be held only by Canadian citizens or companies incorporated in Canada with 50 percent Canadian ownership.

In British Columbia, for which data will be used to measure the effectiveness of the mineral policy in terms of capital expenditures on the mineral industry and value of mineral production, the type policy is open with minor restrictions. The restrictions are age requirements of the person locating a claim and the size of the claims.

From 1965 to 1970 the expenditures in British Columbia for exploration and development for minerals, including oil and gas, increased from \$105.8 to \$302.4 million, a 187 percent increase. Except for oil and gas, the increase was from \$56.7 to \$237.6 million, a 320 percent increase (Table 7).

The value of mineral production, including fuels, increased from \$179.8 million in 1961 to \$469.3 in 1970, a 152 percent increase. Excluding fuels (except coal) the increase was from \$166.9 to \$374 million, a 124 percent increase (Table 8).

Benefits of the mining industry to the local economy were the construction of 193 miles of public roads from 1966 through 1970 at a cost of \$8.1 million plus \$4.3 million for maintenance costs. These roads, including those constructed in past years, have been of significant value in providing access to outlying regions of the Province for settlement and for tourism and recreational purposes (Price, Waterhouse & Co., 1971).

TABLE 7. - Annual Exploration and Development Expenditures  
in British Columbia, 1965-1970  
(million dollars, U.S.)

<u>Year</u>	<u>Oil and gas</u>	<u>Other</u>	<u>Total</u>
1965	49.1	56.7	105.8
1966	55.9	70.5	126.4
1967	67.8	57.7	125.5
1968	62.6	108.4	171.0
1969	65.9	134.0	199.9
1970	64.8	237.6	302.4

Source: Price, Waterhouse & Co. (1971).

TABLE 8. - Annual Value of Mineral Production in British Columbia, 1961-1970 (million dollars, U.S.)

<u>Year</u>	<u>Fuels (except coal)</u>	<u>Other minerals</u>	<u>Total</u>
1961	12.9	166.9	179.8
1962	29.1	195.5	224.6
1963	37.4	212.1	249.5
1964	38.1	219.4	257.5
1965	46.0	222.4	268.4
1966	56.8	260.2	317.0
1967	69.7	293.9	363.6
1968	87.9	285.1	373.0
1969	90.1	325.6	415.7
1970	95.3	373.9	469.2

Source: Price, Waterhouse & Co. (1971).

Other expenditures were in the areas of transportation, grants and donations, welfare and community buildings, and research amounting to about \$10.8 million in 1970 (Price, Waterhouse & Co., 1971).

In addition, there is the multiplier effect--that is, the re-spending of the mineral industry expenditures creating additional income and employment in British Columbia and other parts of Canada. The effect on the regional economy through the multiplier effect is contingent upon three factors: (1) the amount of the original expenditures within the region, (2) the propensity of the people to re-spend their earnings within the region, and (3) the propensity of the people within the region to deposit the money as savings.

In 1970 the expenditures of the British Columbia mining industry had an income effect of \$550 million, about 6 percent of the gross provincial product. The number of workers directly employed by the mining industry was 14,850; in addition there were 35,000 employees in other industries supported by mining expenditures within the province or about 2.5 workers for each employee directly associated with the mining industry (Price, Waterhouse & Co., 1971).

For Canada as a whole the income effect of the British Columbia mining industry was \$1.25 billion.

In addition to the 14,850 workers directly employed by the mining companies another 95,000 workers were employed by industries supported by the mining expenditures. Nation-wide, the mining industry in British Columbia supported seven other workers for each worker directly employed (Price, Waterhouse & Co., 1971).

### Changes in the Mineral Policy

Canada's geographic location, political history, and mineral policy make it an attractive country in which foreign investors are confident they will be fairly treated. However, the degree of confidence can be changed by political inference as well as actions.

Some of the recent changes in the mineral policy that resulted from proposed government changes reported in 1971 were (1) withdrawal of the 3-year exemption for new mines, (2) fast write-off capital assets of new mines and major expansions of existing mines, (3) changes in the depletion allowance, (4) deduction for the cost of acquiring mining properties, (5) taxing the sale of mining properties, (6) deduction for exploration and development expenses by all taxpayers, (7) deduction for foreign exploration and development expenses, (8) different treatment of provincial mining taxes, and (9) withdrawal of prospectors and grubstakers blanket exemption (Macinnas, 1971).

The exemption of tax payments 3 years after the beginning of mine production allows early recapture of the capital investment on the basis of the theory of the time-value of money in computing the return-on-the investment. Opponents to the abolition of this tax incentive refer to the interest and activity of the mining industry in Erie, Ireland, which supposedly resulted after the 3-year tax holiday was incorporated into the Irish mineral policy.

The provision for the fast write-off capital investment used for a new producing mine or a major expansion of an existing mine replaces the tax exemption law. Qualifying assets can be written off each year to the full extent of income from the new or expanded mine or 30 percent of the undepreciated capital cost, whichever is greater, until the entire cost is recovered. The income will include that from processing ores to the prime metal stage or the equivalent. The expansion of an existing mine qualifies if the milling capacity is increased by 25 percent.

Types of assets eligible for the fast write-off are (1) buildings other than office buildings off the mine property; (2) mining equipment and machinery; (3) metal refineries; (4) access roads; and in the case of new mines only, airports and docks located off the mine property and capital expended for community housing and facilities.

The depletion allowance will be changed from 33-1/3 percent to \$1 depletion allowance for every \$3 of eligible expenditures to a maximum of 33-1/3 percent of production profits in the particular year.

Reportedly, the type of expenditures which will be allowed for calculating depletion are (1) capital assets which qualify for accelerated depreciation except airports, docks, and communities, and related facilities; (2) domestic exploration and development expenses excluding the cost of acquiring the property, cost of constructing the community and related facilities, cost of airports, docks, capitalized interest, and exploration and development after initial production starts; and (3) cost of new processing facilities constructed in

Canada provided that they are an integral part of the new mine or expansion and the processing would otherwise be done outside Canada.

Any expenditures made after November 7, 1969, qualify.

The effect of the new depletion rules is that once the accumulation of earned depletion is used, eligible expenditures equal to one-half of production profits must be incurred in the year in order to maintain a 33-1/3 percent depletion allowance.

There will be no shareholders' depletion allowance after December 31, 1971.

After December 31, 1971, the cost of acquiring mining properties, rights, or interests will be treated as exploration and development expenses and will be deductible within prescribed annual limits.

After 1971 the proceeds and not the profit from the sale of a mining property will be taxed. The provisions in the proposal are the proceeds from the sale of the property owned on December 31, 1971, will be taxed on a sliding scale until 1980. In 1972, 60 percent of the value will be taxed, increasing 5 percent per year until 100 percent is reached in 1980.

After 1971 all taxpayers will be allowed to deduct foreign exploration and development expenses at a prescribed rate of 10 percent of foreign exploration and development expenses not previously deductible, or foreign resource properties income, whichever is greater.

Provincial mining taxes will not be deductible after 1976; these will be replaced by an additional 15 percent abatement of federal income tax based on production profits and taxable income.

The blanket tax exemption on the sale of mining properties by prospectors and grubstakers will remain in effect but only until a gain is made on the disposal of shares received in consideration for the transfer of properties to a corporation. Prospectors and grubstakers will be able to deduct their exploration and development expenses the same as other taxpayers.

These proposed changes which became effective in January 1972 are listed as one of several reasons for a decline in mineral exploration in the 18 months preceding the effective date (Mining Journal, 1972, p. 109-110).

#### Future of the Canadian Mineral Policy

The mineral industry growth in Canada has developed in a free environment relative to most other countries, but with significant government assistance for infrastructure development. The purpose has been to attract foreign capital and induce mineral development; domestic firms have not been favored or protected relative to foreign-controlled competitors. Even incorporation in Canada is not required (Report of the Royal Commission on Taxation, 1966).

Foreign participation in the Canadian economy is the subject of considerable public debate. Two opposing schools of Canadian economic thought have influenced the manner and form of economic growth and development in Canada. The "internationalist" approach maintains that the allocation of resources will be most efficient under free trade and unrestricted capital movements into and out of Canada. The "nationalists" argue for more attention to the development of a diversified and independent Canadian economy.

The internationalist argument is based mostly on the price theory used in international trade economics. Accordingly, both world and national per capita income will be maximized if each country produces those goods and services for which it has a comparative cost advantage (under free market conditions) relative to other countries. Income benefits result from the greater specialization of production and economies of scale made possible by the larger markets. Comparative cost advantage is determined by the relative endowments of land, labor, and capital, and skills of countries.

The nationalist argument is concerned to a greater extent with domestic economic development with less foreign dependence.

The nationalists believe that foreign firms often set up subsidiaries to develop mineral deposits in other countries primarily to provide mineral ores to the parent for further processing and fabrication. The economic development policies of countries sometimes do encourage such corporate strategy.

Canada's economy is more open than those of most countries. For example, capital inflows and outflows related to direct investment are unlimited throughout most of the economy and are not subject to concessions policy or screening.

Evidence in favor of the nationalists argument is contained in Table 9, listing the domestic and foreign participation in the manufacturing, mineral resource, and utility industries of Canada. The manufacturing and mineral resource industries were owned and controlled by foreign enterprises; the United States owned and controlled over 50 percent of the petroleum-natural gas and mining and smelting industries in 1967.

Within recent years, the Canadian government has completed several studies relating to direct foreign investment and taxation of the natural resource and manufacturing industries. Of particular concern was the amount of foreign investment and foreign control in these industries and the depletion of the natural resources for the benefit of a foreign nation's economy and not for the greatest benefit of Canada. Measures mentioned in recent address by the Minister of Energy, Mines, and Resources of attaining greater benefits were (1) to obtain majority or sole ownership of the resources; and (2) to establish facilities for processing the raw material as far downstream to the consumer product as practicable (Northern Miner, 1973, p. 24).

TABLE 9. - Estimated Book Value,<sup>1/</sup> Ownership, and Control of Capital Employed in Selected Canadian Industries, Year Ends, 1954-1967  
(value in billions of dollars and percent)

Year	Total capital employed	Canada		U.S.		Other							
		Owned	Controlled	Owned	Controlled	Owned	Controlled						
<b>Manufacturing</b>													
1954	\$ 8.3	\$ 4.4	53%	\$ 4.1	49%	\$ 3.1	37%	\$ 3.4	41%	\$ 0.8	10%	\$ 0.8	10%
1960	12.2	5.8	48	5.1	41	5.1	41	5.4	44	1.4	11	1.4	11
1963	13.7	6.2	46	5.5	40	6.0	44	6.3	46	1.4	10	1.4	10
1964	14.8	6.8	46	5.9	40	6.5	44	6.8	46	1.5	10	1.5	10
1965	16.7	7.8	47	6.9	41	7.3	44	7.7	46	1.5	9	1.5	9
1966	18.7	8.8	47	7.9	43	8.3	44	8.5	45	1.6	9	1.6	9
1967	20.5	9.9	48	8.8	43	9.0	44	9.4	45	1.6	8	1.6	8
<b>Petroleum/Natural Gas</b>													
1954	2.5	1.0	40	0.8	31	1.4	57	1.7	67	0.1	3	0.1	2
1960	6.1	2.3	38	1.6	27	2/3.2	53	2/3.9	64	2/ .5	9	2/ .6	9
1963	7.6	2.8	37	2.1	28	4.0	53	4.6	61	.8	10	.9	11
1964	7.9	3.0	38	2.2	28	4.0	51	4.7	60	.8	11	1.0	12
1965	8.3	3.1	37	2.2	27	4.2	51	4.8	58	1.0	12	1.3	15
1966	9.1	3.3	37	2.3	26	4.7	51	5.4	59	1.1	12	1.4	15
1967	9.7	3.7	38	2.5	26	4.9	51	5.8	60	1.1	11	1.4	14
<b>Mining/Smelting</b>													
1954	1.9	0.8	44	0.9	49	0.9	48	0.9	49	0.2	8	-	2
1960	3.3	1.3	40	1.3	39	1.7	52	1.7	53	.3	8	0.3	8
1963	3.8	1.5	39	1.6	41	2.0	53	2.0	52	.3	8	.3	7
1964	4.1	1.7	40	1.7	41	2.1	51	2.1	51	.4	9	.3	8
1965	4.4	1.8	41	1.7	40	2.2	51	2.3	52	.4	8	.3	8
1966	4.8	2.0	41	1.8	38	2.5	51	2.6	53	.4	8	.4	9
1967	5.2	2.0	39	1.8	35	2.7	51	2.9	56	.5	10	.5	9

TABLE 9. - Estimated Book Value,<sup>1/</sup> Ownership, and Control of Capital Employed in Selected Canadian Industries, Year Ends, 1954-1967  
(value in billions of dollars and percent) --Continued

Year	Total capital employed	Canada		U.S.		Other							
		Owned	Controlled	Owned	Controlled	Owned	Controlled						
Railways													
1954	\$ 4.1	\$ 2.7	55%	\$ 4.0	98%	\$ 0.6	15%	\$ 0.1	2%	\$ 0.8	19%	-	-
1960	5.3	3.9	74	5.2	98	.5	9	.1	2	.9	17	-	-
1963	5.3	4.1	78	5.2	98	.5	9	.1	2	.7	13	-	-
1964	5.3	4.2	79	5.2	98	.4	8	.1	2	.7	13	-	-
1965	5.3	4.2	80	5.2	98	.4	8	.1	2	.6	12	-	-
1966	5.4	4.3	80	5.3	98	.4	8	.1	2	.6	12	-	-
1967	5.5	4.5	81	5.4	98	.4	8	.1	2	.6	11	-	-
Other Utilities <sup>3/</sup>													
1954	5.3	4.6	86	4.9	92	0.6	12	0.4	7	0.1	2	-	1
1960	9.2	7.9	86	8.7	95	1.1	12	.4	4	.2	2	\$0.1	1
1963	11.3	9.8	86	10.8	95	1.4	13	.4	4	.1	1	.1	2
1964	12.3	10.2	83	11.8	96	2.0	16	.5	4	.1	1	-	-
1965	13.4	11.1	83	12.8	96	2.2	16	.5	4	.1	1	-	-
1966	14.9	12.2	82	14.2	96	2.5	17	.6	4	.1	1	-	-
1967	16.2	13.2	81	15.5	95	2.9	18	.7	5	.1	1	.1	-

1/ The book value of long-term debt and equity (including retained earnings) employed in enterprises in Canada expressed in billions of dollars.

2/ New series.

3/ Utilities include air, road, water and urban transport, telecommunications, and hydroelectric utilities, and many of the large Crown Corporations.

Source: Canadian Government, publisher, 1972, Foreign Direct Investment in Canada. Ottawa, Canada, 523 p.

ANALYSIS OF THE MINERAL POLICIES

Foreign mineral policies must be analyzed on the basis of particular economic, social, and cultural history of the country.

The prime consideration of the government of the host country is maximizing the benefits derived from the exploitation of the mineral resources. It has the duty of implementing a development policy by making and administering laws dealing with taxation, labor matters, customs tariffs, currency and exchange problems, and the operation of foreign countries.

Many factors combine to influence the decision of a mining company to expend large amounts of exploration monies into a particular country. The two most important are the country's mineral potential and the general political stability. If these qualities are present, then the type of the national or provincial mining code and taxation policies resume major importance.

The government can improve its knowledge of the mineral potential (if it indeed exists) through geologic surveys and mineral resource studies. Stability of the government can be demonstrated only by experience and time. The government can, however, improve its position of attracting foreign capital investment through the establishment of equitable mining laws, royalties, and taxation policies.

There are three basic methods in which the host government can obtain money from the mining industry: (1) an ad valorem tax on production, (2) an income tax on profits, and (3) a variable tax rate on profits. The ad valorem tax on production is a direct cost and may decrease profits to make some operations uneconomic. An income tax on profits at a fixed rate does not allow for fluctuations in the margin of profit such as a variable tax rate; the variable tax would increase as the margin of profit increases and decreases as the margin of profit decreases.

Development theory, particularly as applied to developing countries, is concerned with specific national efforts directed toward developing new or strengthening existing comparative cost advantage. Few developing countries appear to believe that significant changes in their comparative advantage can be achieved with an open economy. Such an economy is characterized by unrestricted capital flows, unregulated entry by foreign participators, and little protection for domestic firms from foreign competitors. The economic interests of the parent firm and/or the home country are not likely to coincide with those of the subsidiary and/or the host country. Developing countries therefore typically assert that some kind of control or limit on foreign participation is required to ensure at least minimum net benefits to their countries (Mohr, 1972).

Nor would most developing countries choose to form a trading bloc with a far more industrially advanced country, unless strict guarantees were given for further development of industry within their country. The Intergovernmental Council of Copper Exporting Countries (CIPEC) and the Organization of Petroleum Exporting Countries (OPEC) are among the trade associations that have been formed by developing countries. CIPEC, for example, seeks to obtain higher prices for primary commodities from overseas buyers, i.e. the developed countries, by bargaining and by controlling supply.

The Staple Theory, as developed by Harold Innis and further interpreted by other Canadian economists, hypothesizes that further growth will be induced from the "linkages" which develop with other parts of the economy (Mohr, 1972). These linkages include the development of industries (1) to further process or use the staple as an input to the manufacture of another product (forward linkage), (2) to provide inputs for the extraction of the staple (backward linkage), and (3) to produce goods and services for final consumers who directly or indirectly owe their income to staple production (final demand linkage).

The theory is important not only because staple exports provide a large source of Canada's income, but also their production may result in further development of the Canadian economy. It should be recognized that Innis' Staple Theory, as it has been interpreted, is based upon neoclassical price and international trade theory--the international position.

The international position relates to trade among nations based on comparative cost advantage; each country trading those items which it can produce advantageously. These goods are then traded for those items which other countries produce at a comparative cost advantage. This theory is not always politically and socially acceptable because of the impact of fluctuating foreign exchange rates on the domestic economy and of national defense considerations (Habler, 1961).

The data supplied by the model mineral law, the Indonesian mineral policy recently formed, the Mexican mineral policy, and Canadian mineral policy indicate a trend in which the host country wants to control the mineral industry more effectively. Diversified industrialization within the host country appears to be the dominant theme with nationalization of the mineral industry the prime mover.

The developed and developing nations cannot divorce themselves from one another; the developed or industrialized nations need the natural resources occurring in the developing nations. The developing nations need the foreign investment and the associated benefits of technology, markets, and foreign exchange from the exports of mineral commodities to industrialize their economy. Initially, the host government may sacrifice some benefits to lure foreign investors into the country, but at some eventual stage of development the investor must realize the host country will demand increased benefits from the operation.

It behooves the host country to allow the investor a fair return on the investment and to allow for the good as well as the bad in negotiating the contract prior to development of the exploration program.

As indicated in the model mineral law the most important ingredient is fair play. Important considerations of a mineral policy are guaranteed tenure, stable government, and taxation policies, relatively free judgment in operating the property, and an impartial court to settle disputes.

The Indonesian policy in which a foreign company develops the mineral resource by contract arrangements is one of the most recently formed mineral policy. Perhaps the greatest deterrent is the unproven stability of the government in making investment in a mineral operation in this country. However, reported data indicate several major companies have made commitments to explore and develop deposits in this country.

From the viewpoint of "nationalization," the Mexican policy provides a prime example of initial distrust when the policy was introduced in 1961 to one of acceptance in 1971. The major inducement was tax incentives--if an operating company would Mexicanize, the production taxes were reduced. In 1971 approximately 99 percent of the major mineral operations had been Mexicanized. The major deterrent to Mexicanization, after acceptance by the industry, was the lack of Mexican capital to purchase 51 percent of the operation.

The Canadian mineral policy is very similar to that of the United States. Prior to 1971 the Canadian policy contained a 3-year tax holiday which greatly enhanced the probability of a successful mineral operation by allowing early recovery of the investment. It was this particular regulation which may associate with the renewal of a mining industry in Erie, Ireland.

The provinces in Canada are much more independent in establishing mineral policies than are the sub-territories or states in Indonesia, Mexico, or the United States. Therefore, each province may establish a policy based upon its economic and social needs. The Canadian government exercises control over certain strategic minerals in a manner similar to that of the Indonesian and Mexican governments.

The Canadian government, influenced by the control of the major industries by foreigners, is investigating methods such as nationalization or processing and manufacturing consumer goods domestically to rectify the situation.

SUMMARY

Results of the study indicate a trend toward self-determination of the host governments regarding the disposition of their mineral resources. The three mineral policies investigated are diverse in the method in which the governments attempt to maximize benefits that can be obtained through the establishment of a mineral industry.

The prime aim of each mineral policy apparently is to develop a diversified industrial economy, but because of social or economic conditions a different approach is employed.

Indonesia, because of lack of domestic capital, allows total direct foreign investment within contract negotiations for each operation. Revenues are obtained through taxation. Experience in mining is provided by a clause stipulating that within 5 years 75 percent of each job classification must be occupied by domestic nationals. After 5 years it may be possible to nationalize without a major disruption in production as experienced by Chile.

Mexico started the nationalization program in 1961 to revitalize a stagnant mining industry resulting from government policies de-emphasizing a mineral economy and causing most operations to become uneconomic through excessive taxation. The current program requires concessions issued by the government to operate in the nation and 51 percent of the company equity to be controlled by Mexicans. After

the expropriation by the Chilean government of the mineral industry, companies viewed the Mexican policy as one in which the stable government would respect the regulations of the mineral policy. In other words, the companies had a firm commitment from a stable government.

Revenues to the country are through a share of profits and taxation.

The intermediate management of the operations is under the control of the foreign investor, but the Mexicans have a majority of one in the top management positions. Ninety percent of the employment should be Mexican nationals.

The Canadians have an open mineral policy which has been very effective in the development of the mineral resources which are primarily exported. The foreign exchange earned by the exports creates a favorable balance of payments, but in recent years the Canadian government has become alarmed by the control exercised by foreign investors in the major industries of the economy. Currently, there are no controls in the major provinces restraining direct foreign investment--the company can operate freely without undue restrictions as to producing and marketing the products.

Revenues are through taxation of the products as well as imports.

From data surveyed for this study the author foresees the developing countries adopting mineral policies in which the host country participates in ownership of the mineral industry. Attempts will be made to establish an industrial society within each nation, and it is then that the international trade theory can be most effective--each nation producing the commodity for which it has a comparative cost advantage.

Of course, this requires free trade movement which results in the interdependence of domestic economies and a threat to national security based on the production of strategic material. Perhaps there will be no realignment of trading patterns, but the industrialized nations will need to respect the sovereignty of the developing nations. Also more of the profits, within reason, should be used to benefit the host countries economy through the building of secondary industries and transportation networks.

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