

Foreign Investment in the Mineral Sector of Iran: Results of a Survey Conducted am International Mining Companies

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Abstract

Mining and metallurgical projects are among those that require the most sizeable investments undertaken in Iran. One target of the current development plan and the Ministry of Mines and Industries has been to attract foreign investment in mining projects. A survey of world-class mining companies was conducted to determine their expectations and in order to recommend a frame work for Iran aimed at attracting foreign investment This paper examines and reports on the important factors and issues influencing major mining companies' decision to invest in the mineral sector of Iran, and other developing countries, by extension.

Key words: foreign Direct Investment(FDI), Foreign investment in the mineral sector of Iran, Mining company-host nation relations, Location-specific attraction in FDI, Host country's mineral policies, Relative importance of operating factors, Overtime trends of important factors to FDI in mining

Introduction

According to the second and third development plans, the Iranian government encourages foreign

investment in the mineral and other sectors, where there are insufficient domestic technology and capital. As for foreign investment in the mineral

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sector, Iranian authorities have declared their interest on some occasions (see for example, Iran News Daily, August 18, 1997 and Asia Pulse News, August 23, 2000). However, despite an improvement, for verity of reasons, this sector has not attracted the desired foreign investment (IRAN, February 22, 2001). This paper is an attempt to determine the location- and industry-specific factors that impact foreign investment. The “major” international mining companies were surveyed to determine their expectations and the necessary conditions for the investment in mining projects of developing countries (DCs). It also uncovers particular factors issues viewed as obstacles to investment in the mineral sector of Iran.

The Purpose and Methodology of the Survey

The main objectives of the survey were

- i. To shed some light on the prevailing reality of large multi-national enterprise (MNE) and developing country’s relations based on the cumulative experience of firms in the mining sector;
- ii. To develop better insights into the influential components of host country resources, and the concerns of potential mineral investors in developing countries in general, and Iran in particular;
- iii. To understand foreign investors’ perception about Iran’s environment in the mineral sector; and
- iv. To determine the strengths and hindrances of the mineral sector of Iran that influence foreign companies’ decision to invest.

The questionnaire in this study were prepared

following several steps. First, most frequently appeared questions in the extant literature and in previous surveys formed the initial basis. Second, the results of atleast five in-dept case studies on the mineral policies of developing and developed countries¹ were reviewed to incorporate further details. Third, in the first phase of design, semi-structured interviews were conducted with some academics and mining company executives to verify the nature and rationale for each research question, including their respective scales, in order to enhance the reliability, completeness and efficacy of the research instrument. Fourth, the questionnaire was pre-tested (with most of the questions with 5 to 6-point scale answers) to ensure maximum respondent specifivity. Also, in order to facilitate a high response rate, the questionnaire design was optimized for its professional and visual impact. Prior to mailing the questionnaire, most of the executives of many “major” mining companies were contacted. Some were interviewed personally in a major international conference as part of the preparation for this research.

The questionnaire was sent to seventy mining companies of world reputre -- commonly referred to as “majors” -- based in Canada, Australia, Europe, South Africa, Indonesia and Japan. This list constituted almost the entire population of “majors” excluding the US-based firms. Special efforts were made to include mining companies who have had experience, and specially contract(s), in the mineral sector of Iran. After two follow-ups by regular mail and E-mail, 49

1. Australia, Indonesia, Chile, Nigeria and Papua New Guinea

questionnaires were returned. In which 42 were deemed usable and were subsequently analysed, yielding an overall response rate of 60%. Three points are noteworthy: i) the information collected by this survey reflects the views of the respondents based on their world-wide knowledge and experience; ii) only nine companies reported recent or current experience in Iran and thus dropped from the analysis of Iran-centred part of the study to avoid obvious biases. Therefore the eight responding companies constitute the entire population of foreign mining firms active in the mineral sector of Iran at the time of the survey, while the pool of companies 42 represent world-class companies in the world. Overall, the findings provide invaluable information, which not only benefit the mineral investment policy in Iran, but

also their general information can apply to other developing countries.

The General Experience and Involvement of Respondents

In terms of scope of activities and involvement, 76% of companies were active in exploration, mine development and mineral processing, and 24% of them were active in technical and managerial services. Table 1 gives details on the respondents' position and experience in the company. The high experience level of respondents in the mineral sector (i.e., average of 22 years), including involvement in developing countries, indicates that the results of this survey portray a perspective formed by a very high level of experience.

Table1 Positions of the Respondents in the Company (% of Total)

President		Executive Manager		Consultant		Mid-level Manager	
Frequency	%	Frequency	%	Frequency	%	Frequency	%
5	12	23	55	9	21	5	12
Average Work Experience of the Respondents: 21.5 years							

The Rationale for the Content of the Questionnaire

Questionnaire and its contents benefited from five major world-wide surveys, reported widely and accepted by influential agencies, such as the World Bank, ESCAP, etc. [see table 8], which have been informing policy formulation for some time. We adopted questions and scales from these surveys as the initial basis of design, followed by other research reports including those of the authors (see, for example, United Nations, Economic and Social

Council, 1993; Todd & Salmasi, 1993; Strongman, 1994; Salmasi, Bilodeau & Momoh, 1998; Salmasi & Etemad, 1999 and 2000 and Etemad & Salmasi, 1999; 2001a, 2001b, 2002, 2003a and 2003b).

In favour of time and space these detailed improvements are not reported here. However, it suffices to say that we drew upon the extant pertinent literature to design multiple questions, each covering a specific aspect of the topic, to cover the plurality of the subject at hand. These questions were grouped in a family of

coherent and cohesive question in a region of the questionnaire covering developing countries in general and also for those with recent or current experience in Iran's mining sector in particular. Iran-centred questions followed a question assessing experience in Iran. Firms with no recent or current experience in Iran's mining sector were asked to skip that family of questions. Therefore, not only the general findings of this paper apply to all developing countries (of which Iran is a member), but also reconfirm the Iran-centred findings of this paper. Stated differently, the Iran-centred findings of this paper apply to the specific case of Iran's policy environment, the general findings point out potential differences that can inform policy formulation to increase the mining sector's strategic and comparative advantage against other developing countries' increase the mining sector's strategic and comparative advantage against other developing countries' mining policies and practices.

Theoretical Discussion

This paper refrains from a detailed discussion of foreign direct investment (FDI) theories; a thorough theoretical discussion of FDI as applied to the world-wide mineral sector have been presented in a series of our previous papers (for example see Etemad, 2004; Etemad & Salmasi, 2002, 1999 and Salmasi & Etemad, 1999) a summary of which is presented below.

Foreign Investment in the Mineral Sector of Developing Countries

Although DCs are the most important source of

world's mineral supply, the bulk of which is consumed by the Developed Countries. In most mineral commodities, a relatively small number of MNEs, based in developed countries, dominate the sector, who directly or indirectly, control important stages in both the supply chain and marketing of minerals (United Nations, Selected Papers, 1993; Johnson and Pintz, 1985). These conditions allow MNEs to operate oligopolistically world-wide, taking advantage of their market dominance and control in most global markets.

Recently foreign direct investment has been the dominant source for mining development projects in many DCs and to some extent exploration and mining has slowly shifted from developed countries, such as Canada and Australia, to the DCs (Eggert, 1997). Although mineral sector suffers from some of its own unique features, it is still a primary source of FDI for DCs.

A large body of scholarship, ranging from Monopolistic Advantages (Hymer, 1976), Oligopolistic Reaction (Knickerbacken, 1973), Internalization (Buckley and Casson 1976; Rugman 1979), to the Eclectic Theory (Dunning 1973, 1977, 1980, 1988) have discussed characteristics of FDI in general. However, the inherent complexities and the unique characteristics of mining and extractive sector, including their impact on investment, investing firms and host countries, have remained largely uncovered.

An equally large number of scholars have discussed FDI in the mineral sector of the DCs. The list includes, but not limited to Johnson and Pintz, (1985), Brower (1987), Walde (1988),

Bomsel (1990), Classens (1993), Aldous (1993), Frecker and Sharwood (1993), Brown, Faber and Sisulu (1994) and Strongman (1994). They have discussed the role of FDI and MNEs in mining operations in DCs, in benefits and disadvantages with regard to of both DCs and MNEs. Although there is a general agreement with the above theories, there is no cross-links integration and synthesis.

While the role of MNEs in resource development projects located in DCs have been described as “agents of change” and “engines of economic development”, they have also been criticized for their “short sightedness”, “greater concern for profits”, “political interference” and for “discouraging the development of local industries” in host countries (Selassie, 1995 Johnson and Pintz, 1985).

Both sides of the argument hold truth in their respective contexts¹. Most DCs regard mineral resources as their heritage, to be used for their own national development, and as a source of valuable foreign earnings. However, they usually lack the technological expertise and the capital to develop them. Therefore they rely on FDI to develop these resources for meeting their national goals. They aspire it to avoid compromising their national heritage and sovereignty. MNEs, on the other hand, can offer their expertise to develop these

country- or location-specific resources, but are adverse to yield control to DCs, which compromise their firm-specific advantages. This uneasy relationship distinguishes the mineral sector from most others, and assigns a much highly critical and sensitive as well as balancing role to the government in nurturing and shaping the operating environment of their mining industry at the same time.

In the era of globalization, the impact of MNEs is growing in the international mining marketplace, the more fundamental question for policy makers in DCs is how to make this relationship more mutually-beneficial (Selassie, 1995). Any involvement of MNEs in DCs is basically a form of partnership, and partnerships need mutual understandings and compromises to succeed.

Unique Features of the Mining Industry

The mineral and mining industry is a capital-intensive and high-risk business with certain unique characteristics, which can result in both problems and opportunities. According to Bilodeau and Davidson (1992), these characteristics are: a) high risk nature of mineral investment; b) large capital requirements of mining projects; c) long lead and exposure times associated with mineral projects; d) fixed location and physical uniqueness of mineral deposits; e) significant environmental impact of mining activity; f) non-renewable nature of mineral reserves; g) uneven distribution of mineral resources; and, h) dynamic and decreasing nature of ore reserves.

In a typical mineral investment, risk is defined as the probability that a mining project ends up

1. It is important to point out that in discussing the pros and cons of foreign investment in DCs, we are not attempting to reach a judgement about whether foreign investment *per se* should be involved in the development of mineral resources in DCs. It is inevitable that foreign investment will continue to be involved in the mining sectors of most DCs sooner or later, and to varying degrees of influence. Therefore, the position taken by the authors throughout this paper is that of examining aspects of an already existing phenomenon, from the perception of both the MNEs and the DCs.

with a loss due to the uncertainties associated with a range of issues, such as: a) the quality of geological and engineering information, b) higher actual cost of mining as compared to forecasted estimates, c) the instability in commodity markets causing price fluctuations, and d) the instability in the fiscal and legal regime of the country impacting operations. These factors affect one another as well as the course of action employed in response to them. Some of the prominent risk components in the mineral industry are discussed below:

Exploration Risks: The highest risks are usually involved in the exploration phase. Despite technological advances in the modern practice of exploration, the probability of actually making a commercial discovery is still low, reportedly as low as one in 1000 (Ritchie, 1995). However, Mackenzie and Bilodeau (1983), in their analysis of Australian exploration discovery statistics during 1955 and 1978, found that from 100 mineral deposits discovered, only 43 could be considered economically viable on a pre-tax basis. This number further decreased to only 33 following tax considerations (Ritchie, 1993). Exploration is usually carried out in remote areas with poorly, to non-existent, infrastructures, which impact adversely both the cost structure and the economic health of operations. Provision of continuous support for modern equipment and expert personnel means that both man and machine must be maintained in inherently harsh operating conditions, which in turn requires substantial financial outlays from the outset. Consequently, small mining enterprises (SMEs)

are badly disadvantaged in all these aspects.

Capital-intensity and Long-term Investment: Mining operations are highly capital-intensive. This intensity is partially responsible for the high productivity of this industry. However, the correspondingly high carrying cost of capital outlays, or loan repayment obligations, further disadvantages the industry as compared to others. Mineral exploration and mine development are also long-term activities. The long time horizon, within which the majority of global mineral developments are set, imply that mining company operator must cope with added uncertainties partly due to environmental uncertainties and international markets fluctuations and partly due to their high debt loads reducing their choice of strategic actions. Thus the mining investor will have to cope with much higher levels of risk and uncertainty than investors in other fields do.

International Competition: The success of the mining industry is contingent upon its ability to compete within globally integrated markets. Domestic markets and contracts are invariably linked to international markets. Export contracts are usually priced at international market prices. The local industry, regardless of its actual size and level of foreign participation, is therefore exposed to the international price levels independent of currency fluctuations over the long life of mining operations. While the former is influenced by global market conditions, the latter is primarily shaped by the host country's economic policies, relative to the global economy.

Accentuated Time Impact: Due to both the capital intensity and sheer volume of required

effort before a site is commercially exploitable, relatively longer break-even and long pay back periods are common in mining operations. Therefore, time plays an exceptional role. It accentuates, if not magnify, the impact of other time-related factors. Consider, for example, political risks. While the political system of a country does not directly affect the attractiveness of an exploration site, a number of dynamic related factors, such as the perception of stability of the political system over time, the extent of variability of laws and regulations impacting the sanctity of contracts and agreements, the change in attitude towards foreign investors and foreign direct investment (FDI) and the state of bureaucratic machinery affecting the commercial viability of the site play a highly influential role in investment decisions. All these time-related factors and their impact further intensify over longer time horizons. An investor is bound to be concerned with undesirable change in government policy or operating conditions during the long execution period. As individual factors can have a potentially disastrous impact on profitability, if not the viability, over the operating life cycle of the project¹, they are examined very carefully and methodically. In the absence of solid information about that long time horizon, the current state of affairs looms unjustifiably large in these assessments.

Other Factors: Elements, such as the uncertainty of the future price of mineral products

1. To alleviate these fears, some countries, like Chile, have created stable options for foreign investors: to pay corporate tax at a fixed rate guaranteed to remain unchanged for ten years (Price Waterhouse, 1994).

and estimated operating costs, inadequate design or processes, technical failures, capital cost overruns (both due to foreign exchange fluctuations and inherent unforeseen complexities) as well as completion delays are among the major inherent developmental uncertainties. Some of these uncertainties materialize to a varying degree. However, they all remain with the project over its lifetime. However, fluctuations in regulations regarding equity participation, tax regimes, right to mine, security of investment and appropriate economic policies for the long-term, are among the main economic considerations impacting a mineral investment. Environmental policies and regulations regarding mining activities are also quite dynamic over time and their associated costs are expensive, increasing both the economic risk and even the viability of mining activities. Although a number of above characteristics are not unique to the mining industry, the risks associated with mining projects are often higher and longer-lasting than those of other industries. Thus, mining investors require stable and competitive terms and conditions complemented by solid assurances that can collectively lead investors to the perception (or forecast) of exceedingly more favourable investment environment over the operating life of the project as time marches on.

DISCUSSION OF RESULTS

The incentives of MNEs for investing in the mineral sector of developing countries are well discussed in the literature (see for example: Selassie, 1995; Strongman, 1994; Tsomondo and Adde, 1993; Kumar, 1990; and UN-ESCAP,

1980). Incentives such as availability of mineral resources, profitability of the project (e.g., fast payback of the investment), optimisation of profits over time by sustaining a long-term presence in a country (through the granting of long-term claims tenure), and investing in minerals with strategic importance, have been mentioned in many studies in the past.

Reasons Cited by Mining Companies for Investing in Developing Countries

The first question of the survey concerned the reasons/incentives for investing in a developing country. The respondents were asked the following question: “Please rank in order of importance your reasons for investing in a developing country”. The results are shown in Table 2.

Table 2 Incentives of Mining Companies for Investing in a Developing Country

The Element/Issue	Degree of Importance*		
	Rank	Average	S.D.**
Profitability of the Project	1	4.8	0.5
Availability of Good Mineral Resources and Higher Ore Grades	2	4.46	1
More Favourable Fiscal Regime	3	4.37	0.7
Entry into the Market for Long-term Concerns	4	3.66	1.1
Market Expansion (Host country’s market size)	5	2.89	1.2
Entry into the Market for Short-term Concerns	6	2.83	1.4
Local Equity Participation	7	2.48	1.49

* Degree of Importance of Factors on a Scale of 5=Most Important to 1=Least Important.

** Standard Deviation

As can be inferred from this table, the profitability of the project, the mineral potential of the country, and more favourable fiscal regime of the host country are cited as the most important reasons for entering into a mining agreement with DCs.

Many factors may impact upon a country’s attractiveness for mining-oriented foreign investment. The list includes, for example: mineral endowment, guaranteed mining rights before exploration (e.g., security of tenure), stable and attractive fiscal and political regimes, progressive mining codes, economic and currency stability, simplified administrative procedures, contractual

stability, availability of land for exploration and international arbitration¹.

The survey question relating to the degree of importance of the above-mentioned factors in formulating contracts related to mineral projects in a developing country was as follows: How important are the following factors for you in formulating contracts concerning mineral projects in a developing country? A list of 20 items helped capture the details and operationalized this question. The results are shown in Tables 3 and 4.

1. For a longer list and detailed discussion see: Eggert, 1997; Selassie, 1995; Strongman, 1994; Todd and Salmasi, 1993; Aldous, 1993; World Bank Technical Paper 181, 1992; United Nations [selected papers], 1993; and Kumar, 1990.

Table 3 Degree of Importance attached to Selected Issues from the view of Mining Companies in their Decision towards Mineral Investment in Developing Countries

Element/Issue	Rank	Average *	S.D.
Right to Mine (Security of Tenure)	1	4.85	0.4
Stability in Laws, Regulation and Government Policies	2	4.80	0.4
Repatriation of Profits	3	4.78	0.5
Mining Code	4	4.54	0.7
Fiscal and Financial Incentives (income taxes, government grants, etc.)	5	4.37	0.7
Access to Foreign Currency	6	4.22	1.1
Repatriation of Capital	7	4.2	1.1
Political Stability in the Host Country	8	4.10	1
Land Ownership	9	4.10	1
Bureaucratic Procedures Involved in Doing Business	10	3.97	1
Access to International Arbitration	11	3.95	1.2
Hiring of Foreign Specialists	12	3.8	1
Labour Law, Work Ethics and Work Condition	13	3.73	0.8
Equity Restrictions (Less Than x Percent)	14	3.68	1.1
Adequate Infrastructure	15	3.44	0.9

* 5= Most Important to 1= Least Important.

The ranking of issues regarded as the most important in attracting foreign investment (such as the right to mine and security of tenure, the right to repatriate profits and capital, the mining code, access to foreign currency, fiscal incentives, political stability and international arbitration), confirms the findings of previous surveys (Otto, 1997; United Nations, Economic and Social Council, 1993; O'Neill, 1992; Charles, 1990). However, respondents to the present survey attached a high degree of importance to the stability in laws, regulations and government policies of the host countries in general and Iran in particular, which is in conformity with authors' previous findings. In the first author's survey in

Iran (not reported here), local mining companies also perceived instability in regulations and government policies as an important risk inherent in mineral investment in Iran. Therefore this finding is not restricted to major foreign enterprises. A major inducement by the government to attract local and foreign investment would be to make prudent long-term plans and programs for the development of the mineral sector and to commit itself to maintain a stable regulatory and policy environment.

Conversely, factors rated as less important to mining companies' mineral investment location decisions are shown in Table 4.

Table 4 Issues/Factors that are Less Important to Mining Companies in Their Decision toward Mineral Investment in Developing Countries

Rank	Importance of Elements (Ranked from Least Important to Important)
1	Growth of Local Demand for Products
2	Financial Contribution of the Host Country
3	Prior Corporate Experience in the Host Country
4	Access to Local Expertise
5	Availability of Cheap Factor-Inputs (e.g., cheap labour, energy, locally produced goods, etc.) in the Host Country
6	Adequate Infrastructure

Issues such as local demand for the product (s), financial contribution of the host country, access to local expertise, availability of cheap inputs and infrastructure of the host country are relatively less important to the mining companies¹. Tables 3 and 4 together clearly show that the concerns of the mining sector are different from those of general foreign direct investment (FDI). Important factors to general FDI, such as cheap factor inputs, do not seem to attribute much importance to mining companies. A list of elements with critical impact on mining companies' decision to invest in a given location is discussed in the following section.

Profitability of the Project and Fiscal Incentives

Rate of Return (ROR)

Mining companies want the rate of return in their

overseas operations to be comparable to that at home (Aldous, 1993). Foreign investors, however, demand a higher rate of return because of higher-perceived political risk in the host countries. Foreign investors will only invest if the expected rate of return is commensurate with the risks associated with exploration, development, extraction and marketing of minerals. Since the involvement of foreign partners reduces risks through risk sharing, they expect to receive special incentives such as tax holidays, special allowances and early write-off provisions, and the remittance of dividends (Tsomondo and Adde, 1993). Foreign investors also demand a higher rate of return because of higher-perceived political risk in the host countries. Therefore, host nations will be in a much better bargaining position if they reduce the political risk and other factors (or conditions) affecting the expected rate of return on investment.

Taxation plays an important role while evaluating a country for investment. The tax rate per se is one of the most significant factors affecting the level of return to the investor. Foreign

1. Some results of this study confirm those of a previous survey by Selassie (1995). Although his study is about the joint-venture formation in the agribusiness sector of Africa, foreign companies investing in the mineral sector have many common concerns. A comparison between the results, while bearing in mind the difference between the two sectors, can provide a better insight in this matter. Elements/issues such as price regulations on inputs, government incentives provided, ease of importation of raw materials, host country market size and prospect of expansion, and availability of skilled manpower, are categorized as "probably tolerable" by investing companies in Selassie's survey.

investment is generally subjected to the same tax system applied to local investment. Due to its importance in the decision-making process of mining companies, taxation is presently being used by many developing and transition economies as an incentive for attracting foreign and national investment into the exploration for and development of new mines (Schreck, 1996).

Some previous studies (Strongman, 1994 and World Bank, 1992) have concluded that the profitability of the project and fiscal incentives (low tax rates, repatriation of profits and capital, etc.) of the host country are among the most important factors that encourage the entry of foreign investors. A survey of large mining companies (United Nations, 1993) has confirmed that three factors, i.e. guarantee of the right to mine, profitability of the project and the repatriation of profits, dividends and capital, play a leading role in attracting foreign investment. 92% respondents in present survey stated that the profitability of the project is an important consideration in investing in the mineral sector of DCs. Regarding the degree of importance, this element ranked as the most important incentive for mining companies, with an average importance of 4.8 (on a scale of 5 being the most important and 1 being the least important) and a standard deviation (S.D.) of 0.50.

Fiscal Incentives: Fiscal and financial incentives such as low income tax rates and government grants in the host country are yet another important element for foreign investors. The degree of importance of this element was 4.37, with a S.D. of 0.70. It is noteworthy, however, that

Kumar (1990) believes that the impact of fiscal incentives (tax holidays, investment allowances or subsidies) on investment decisions is limited. From his point of view, fiscal incentives cannot compensate for the high production costs or the losses associated with lack of the market. Competition among countries leading to almost the same incentives may have reduced the impact of fiscal incentives. They do not appear to prejudice the investment location decisions.

Mineral Endowment and Geological Prospects:

Another important consideration in any mineral investment is the rich mineral endowment and geological prospects of the host country. Foreign companies normally engage in exploration only when assured by adequate geological data. Therefore, countries that have already conducted a certain amount of geological prospecting, with promising results of the preliminary investigations, stand a better chance of attracting foreign investment. Charles (1990) in his survey of multinational mining companies, showed that geological potential is the “most important factor” for investors in selecting countries for mineral exploration. According to O’Neill’s (1993) study among Australian junior mining companies, attractive geological prospects was ranked third in the investment criteria as “critical to important” for mining investment. Also, a survey of the Economic and Social Commission for Asia and the Pacific (ESCAP) among international mining companies showed that general mineral abundance and geological potential for certain targeted minerals were the top two most important factors in choosing exploration targets (United Nations,

Economic and Social Council, 1993). The importance of this element in the present survey was 4.46 with a S.D. of 1.

Right to Mine (Security of Tenure): Given good geological prospects, a guarantee of mining rights before starting exploration is normally seen as an essential precondition for investment. Again a well-established mining code and contractual stability are critical factors in mineral investment. Mining rights in the host country was mentioned by 91% of respondents as an important factor in their decision to invest in DCs. The degree of importance of this factor was 4.85 on a 5-point scale, with a standard deviation of 0.40.

Access to Foreign Currency and Foreign Exchange Policy of the Host Country: Transparent monetary, banking and foreign exchange policies are prerequisites for attracting foreign investment. Foreign exchange control is very important, since when under-valued, it is intended to meet criticism of excessive returns to foreign partners, and when over-valued, can prevent the exploitation of economic rent by foreign investors (Kumar, 1990). Therefore, it has an important impact on the freedom to remit dividends or repatriate capital.

Another point concerning foreign exchange policy is that an overvalued local currency and shortage of foreign exchange can cause illegal transactions in the black market (particularly in precious minerals such as gold and gemstones), and can create an environment of under-declaration of mineral output, and corruption (Kumar, 1990).

Access to foreign currency and the foreign exchange policy of the host country is considered

by 93% of respondents to be an important factor in their investment decision process in the mineral sector of DCs. Regarding the degree of importance, this element ranked as the sixth most important, with an average of 4.22 on a scale of 5= most important to 1= least important, with a Standard deviation. of 1.

Mining Code. In general, mining law may be defined as consisting of all the laws, regulations and guidelines that directly affect mineral development (Walde, 1989). Traditionally, the mining law has served as a tool for establishing the conditions under which mining rights can be acquired, transferred, and terminated. More recently, the major function of mining law has been to articulate and clarify the government's policy towards this sector of the economy. It deals with issues such as ownership (public or private), regulation by mineral development agreement, investment promotion, and environment stewardship, among others. It also establishes the administrative procedures and sets up the specific criteria used for granting mining titles.

Mining code in the host country was mentioned by 81% of respondents as an important factor in their mining investment decision. The degree of importance of this factor was 4.54 on a 5-point scale, with a standard deviation of 0.70.

Mineral Sector Information: There is generally a lack of basic information on mining in DCs. The existing information is often less adequate and less distinct with regard to basic geological data, and legislative and fiscal regimes. During the course of this research and based on the results of the present survey, it became apparent

that foreign companies have little information about Iran's level of mineral endowment, mineral activities and regulations related to these. Except for the state of international relations of the country, the overall state of the economy and the mineral potential of the country, that respondents were informed about, other important issues such as mining rights, tax regime, foreign investment law, availability of geological data, availability of expertise, overall infrastructure in the country and level of production of basic metals (steel, copper, lead and zinc) were not known by many respondents.

It is important, therefore, that the Ministry of Industries and Mines take the necessary steps to publicise, if not advertise, locally and internationally the true state of Iran's mineral sector. The availability of geological data is, in particular, quite important.

The Location of Arbitration: The location for arbitration of potential disputes is another important factor to foreign investors for two different reasons: i) accessibility and general convenience, and ii) expected equitability and fairness. It is quite important to foreign investors to know the extent to which national courts may influence the final decision (Salmasi, Bilodeau and Momoh, 1998, and Nusairet, 1987). In contracts in which parties of different nationalities are engaged, a "third party" arbitration is often the preferred means of settlement, generally in a location regarded as "neutral". However, if the parties do not articulate the arbitration procedure, then the law of the country in which the arbitration is to be conducted can become crucial (Nusairet, 1987).

The degree of importance of this factor in the present survey was 3.95 with a standard deviation of 1.20..

General Business Climate: Creating a political and economic climate that instils confidence is one of the most important factors in attracting foreign investment in mining and other sectors. At times there may be a perception, whether real or imagined, that a particular country is a riskier place to invest in than other countries. This may signal that the compensation for the perceived risk will have to be higher as compared to a similar investment in another country. To attract foreign investment, therefore, the task of "achieving business confidence" may not be left to chance. The country's overall attractiveness will eventually depend on the soundness of government's economic policy, relating in particular to finance, taxation and trade.

Ownership and Control: Ownership and control are important factors for mining companies, although views on the ownership of host government and local companies vary. Some companies do not like to invest in countries with mandatory local majority participation. They feel that this might hamper their ability to control the management and decision-making of the company. However, others feel that minority local participation is a positive factor because they can establish a good relationship with the government and exercise influence over its policies. The degree of importance attached to local ownership and equity control in the present survey was 4.10 on a scale of 5 = most important to 1= least important, with standard deviation of 1.

Institutional Infrastructure and Bureaucratic

Procedures: There is an abundance of literature discussing thoroughly the significance of effective institutional structure and efficient bureaucratic procedures for awarding title, monitoring, regulating and controlling mineral development projects. Of the respondents to this survey, 79% regarded this factor, i.e., institutional structure and bureaucratic procedures in the host country, as an important factor in their decisions toward investing in DCs. The degree of importance was 3.97 with a standard deviation of 1.

Infrastructure: Availability of physical infrastructures is also important to attracting foreign investment into the mining industry. Transport facilities, railways, roads, ports and waterways are vital for the delivery of plant machinery, equipment and materials, and to transport mine products to the market. The cost of physical infrastructure is also significant in the mining industry. Normally, the transport cost of bulk commodities such as iron, coal and manganese represents more than 50% of the delivered cost (C&F price) of the product. Therefore, the quality, the capacity and the nature of transport networks affect the economic viability of mining projects and are of main concern to the investing company. The degree of importance of this factor was 3.44 with a standard deviation of 0.90.

Other Elements: Other factors, including repatriation of profits and capital, hiring of foreign specialists, eliminating restriction in equity holding by the foreign partner, labour laws, work ethics and work condition, all have important impacts in attracting foreign investment to the host country.

State of the Mineral Sector in Iran

To determine the impressions of foreign mining companies about the state of the mineral sector of Iran, the following question was asked. "If you have (had) any mining operation/contract in Iran or if you have adequate knowledge of the mineral sector of Iran, how do you describe the state of the following in the country?" (5="Excellent" to 1="Not good at all"). The results are shown in Table 5.

The results of Table 5 provide important insights into mineral investment in Iran. It also lists valuable indicators regarding perceived weaknesses for the government to address. Elements, such as mineral potential of the country, demand for mineral products, overall infrastructure of the country, access to telecommunication links, price control on inputs, availability of cheap labour, energy and other production factor inputs, and availability of expertise are rated as satisfactory. However, some laws and regulations governing the mineral sector, such as the right to mine, fiscal regimes and the foreign investment law, are not received very well.

Main Obstacles/Problems that Discourage Foreign Companies from Investing in the Mineral Sector of Iran

In another question, the respondents who have (had) same mining operation/contract in Iran were asked to list the main obstacles/problems that discourage them from investing in the country's mineral sector. The responses are summarised below in order of importance, from the most to the least important. The importance of each factor is based on the number of respondents indicating the response.

Table 5 State of Mineral Investment in Iran (Responses of Foreign Mining Companies)

The Element/Issue	Degree of Satisfaction	Average*	S.D.
Right to Mine		3.33	1.25
Fiscal Regime (taxes, duties, ...)		3	1.25
Performance of the Mineral Sector in Recent Years		2.5	1.03
Stability in Laws, Regulations and Policies		2.5	1.03
Availability of Geological Data		3	1.38
Demand for Mineral Products		3.8	1.67
Availability of Expertise		3.25	1.45
Availability of Cheap Production Input Factors		3.25	1.36
Co-operation of the Government with Investors		2.75	1.12
Co-operation of the Local Companies with Investors		3.5	1.06
Mineral Potential of the Country		4.2	1.92
Access to Telecommunication Links		4	1.61
Overall Infrastructure of the Country		3.25	1.32
Foreign Investment Law and Regulations		2.25	0.93
Work Ethics (Worker Discipline, Productivity, Labour Law, Management - Labour Relations, . . .)		3	1.12
Price Control on Inputs		3.67	1.33
Price Control on Final Product(s)		3	0.65

* 5= "Excellent" to 1= "Not good at all".

Table 6 Main Obstacles/Problems that Discourage Foreign Companies from Investing in the Mineral Sector of Iran (from the Most Important to the Least Important)

1	Political Considerations, Management and Bureaucracy International relations of the country, Bureaucratic legal system, Procedures to do business, Difficulty in obtaining visas, Multiple decision-making process, Lack of timely decision-making by authorities that cause increased initial costs in assessing project viability.
2	Cultural and Language Differences
3	Financial and Commercial Matters Discouraging tax regime, Unprofessional bidding practices.
4	Restrictive Laws and Regulations, Lack of Information Restricted right to mine, Lack of availability of geological information

Main Incentives and Benefits Encouraging Foreign Companies Investment in the Mineral Sector of Iran

Respondents who have (had) experience in, or

stated familiarity with mining operations in Iran were asked to list the main incentives and benefits that encourage them to invest in the mineral sector of Iran. Their responses are summarised in Table 7.

Table 7 Main Incentives and/or Benefits that Encourage Foreign Companies to Invest in the Mineral Sector of Iran (from the Most Important to the Least Important)

1	Mineral Potential and Economic Considerations Availability of good mineral potential, Availability of cheap labour and experts, Availability of good infrastructure, Improved professional business practices (recent), Good investment opportunities for world class copper and zinc deposits
2	Political and Legal System Political stability, Open government, Freedom of movement, Change of attitude of the new government to Western countries, Security of tenure, Majority equity ownership, Proactive invitation of foreign investors and Accepting international arbitration.
3	Financial Regime A competitive tax environment, and Improved payment record

The results show that there is a need for decision-makers to pay special attention to some critical issues if they want to boost foreign investment in the mineral sector. Regarding the political climate, some respondents stated that “Iran is a politically stable country with a freely elected government”. The new government’s policy was viewed constructive and aimed at enhancing the international relations of the country and reducing tensions in the region and also on the international level. These policies will undoubtedly increase its ability to attract foreign investment. It may, however, take some time for the results to bear fruit. Legal and administrative systems, despite numerous improvements, are still viewed as bureaucratic. This discourages foreign investment. As mentioned by some respondents, the “lack of timely decision-making by authorities”

increases the initial cost associated with assessing a project’s viability. Thus, there is an urgent need for the government to make serious efforts to streamline decision-making procedures and reduce bureaucratic delays to a minimum.

Iran’s Comparative Advantages in Attracting Foreign Investment

Iran has many comparative advantages, such as abundance of energy and mineral resources, low cost labour, experience in mining, tax holidays and tax exemptions for new mining investments, a large regional market, well-developed access to the Persian Gulf water ways, and free trade areas to attract foreign investment. According to IPR Strategic Business Information Database [July 24, 2001], this sector offers vast untapped potential

for growth. It has approximately 3,000 active mines of iron ore, coal, copper, lead, zinc and limestone. Furthermore, Iran ranks first in worldwide reserves of construction stone. According to Iran News (September 27, 1998) the government has also taken the necessary measures to guarantee the safety of the hard currency brought into the country. An article in Tehran Times Daily (October 21, 1995) concluded that because of the operations of Free Trade Zones (FTZs) in Iran, it is now the “fittest country in the region” for the foreign investment. This survey and studies supporting it have lead the authors to believe to believe that because of the existence of good mineral resources in some FTZs and the possibility of establishment of smelters in these areas, if effectively managed, can create additional incentives for foreign investment.

Comparison of The Results of The Present Survey with previous surveys

Reports and results of a number of previous surveys concerning foreign investment in the mineral sector of DCs were available to the authors. A common concern of all surveys was to determine the important factors and issues to companies in selecting mineral projects in DCs, which have been compared by the present survey. All these surveys share a very important characteristic. They surveyed practically most of the major world-class mining companies world-wide. The list includes:

- The Present Survey, 1998-2000, designated in Table 8, as S&E include some of the largest major mining companies based in North America, Europe, Australia, Indonesia and Japan.
- A survey by the Economic and Social Commission for Asia and the Pacific (United Nations, Economic and Social Council, 1993, and Otto, 1997), in 1992, among 39 mining companies located in North America, Europe, Asia, Australia and Africa, about “the factors being important in considering mineral investment,” designated in the table as ESCAP.
- A survey by O’Neill (1992), among Australian Mining Companies for their “reasons in selecting a specific African country for mineral investment,” designated in the table as ONL.
- A survey by the World Bank, Mining Unit (July 1990), among International Mining Companies regarding “determinations of mineral exploration and investment in developing countries,” designated in the table as WB.
- A survey by Charles (1990), among Multinational Mining Companies regarding “determination of important factors in selecting countries for mineral exploration,” designated in the table as CHL.
- A survey by the East-West Centre (1989), among 32 International Mining Companies regarding “critical and negotiable factors for major mineral exploration in a country,” designated in the table as EWC.

Table 8 Comparison of the Results of the Present Survey with Previous Surveys
(Important Factors in Selecting DCs for Mineral Investment)

Elements/Issues	EWC 1989	CHL 1990	WB 1990	ONL 1992	ESCAP 1993	S&E 1998
Right to Mine	1		1	1	2	1
Stability in Laws, Regulation and Government Policies	7			11	8	2
Repatriation of Profits (and capital)	2		5	2	3	3
Mining Code	6		4	8	4	4
Geological Potential of Host Country		1		3	1	5
Fiscal Incentives (tax rates and terms)	5		2	6	9	6
Access to Foreign Currency			3	10	7	7
Political Stability		2		5		8
Land Ownership						9
Bureaucratic Procedures Involved in Doing Business						10
Access to International Arbitration	7	4				11
Labour Law, Work Ethics and Condition						12
Hiring of Foreign Specialists						13
Equity Control	4			7	6	14
Availability of Adequate Infrastructure		3				15
Management Control	3			4	5	

As can be seen in Table 8, the results of this survey and previous surveys show that investing companies generally agree on many important issues but they differ on their degree of importance. The right to mine is the most important factor in all surveys. The mineral potential of the host country, stability, repatriation of profits, mining code, access to foreign currency and fiscal incentives are the most frequently mentioned factors in all surveys.

The above-mentioned factors do not always

guarantee an influx of foreign capital. Due to strong competition for foreign investment, many DCs are simply adopting the mineral policies of other countries, and modifying them to offer exceedingly more favourable conditions. However, investors are not flocking in as expected although other factors (geology, etc.) may also be conducive. These difficulties are already recognized and well discussed by, for example, Tsomondo and Adde (1993). Factors such as the selective geographic location of money supply,

tightening bank financing for mineral projects, declining metal prices, timing of mineral policies, geographic location of the DC country, mineral commodity type, availability of information are notable in this respect.

Conclusions and Recommendations

Given the abundance of mineral resources, the mineral sector of Iran needs to attract sustainable inflows of private capital to develop them. The results of this study lead the authors to suggest that the implementation of strategies stressed below, derived from a review of the literature on foreign mining investment, the results of the present and previous surveys, as well as the authors' personal discussions with large mining company officials during several mining seminars and conferences, the mineral sector of Iran can attract substantial amounts of internal and foreign capital in a reasonably short time period.

1. **Attracting Domestic Investment:** As the mineral sector of Iran has many privileges, the government should be able to attract investment to this sector prosperously. A potential difficulty in this regard may lie in mobilizing domestic private capital to achieve a high level of growth and investment. If the mineral sector cannot mobilize internal funds, efforts to attract foreign investment would unlikely generate much interest in the international mining corporations. The amount of domestic private investment is an indicator of the business and economic environment in the country and, therefore, has a great impact on attracting foreign investment. Thus, it seem necessary for the

government to direct the broad sources of domestic private capital to productive sectors, e.g., mining. Privatization, as well as modern management practises, will also go a long way to achieve this objective.

Another important consideration in attracting domestic investment is that local investors are more capable of "adjust[ing] their industrial tool to the cyclical variations of the markets" (Bomsol, 1990). Although all previously-discussed factors have a significant role in attracting foreign investment, Brown, Feber and Sisulu (1994) stated that their effects will sometimes be subsidiary to "the track record of the government in dealing with earlier foreign investment," and how the government of a country "treats the firms and individuals in the country's own private sector." Experience strongly suggests that if these elements are discerned to be favourable, foreign investors will seek to come even if a foreign investment code is absent in the host country. With this observation in mind, reviewing the demand of local investors is important.

2. **Improving Domestic Capital Markets:** The reform of financial sector (bank and capital markets) to increase the supply of loanable funds to facilitate domestic and international investment, and to help reduce investment risks encourage the mobilization of capital towards the mineral sector. The government may also encourage, if not promote, non-banking credit institutes. The Central Bank of Iran should, of course, exercise full supervision over the operation of such institutions. According to the Governor of the Iranian Central

Bank, foreign banks are already allowed to establish branches in the FTZs (Iran Weekly Press Digest, April 29, 1997).

3. Stability in Macroeconomic Environment and Reform in Regulations: A stable macro-economic environment is also an important precondition for foreign investment¹. Another challenge in attracting private investment is the updating of the regulatory and supervisory regimes to comparable international standards. This will enable investors to compete in an internationally comparable marketplace at home and abroad. The following suggestions may be instrumental in achieving results. The most important areas that need to be addressed are: first, the reaffirmation that the equity share of a foreign partner is open to negotiation, and second, the transparency in definition of all financial incentives applicable to foreign investors. Third, the provision of international arbitration of commercial disputes needs to be explicitly addressed, when there are no other mutually-acceptable arrangement in the investment and operating contracts.

4. Fiscal and Mineral Policies: The most important reforms in these areas are: first, exploration permits and concessions, which need to be transferable with minimum government intervention. Second, taxation of mining companies, while taking the specific nature of mining as a resource-based industry into account, needs to become consistent with the taxation of

other sectors in the economy. Tax levels in other mining countries could be examined as a benchmark to update and maintain the competitiveness of the national mining industry. Given its high impact, the exchange rate regime should be aimed at economic stability as well as growth and investment.

5. Administrative Reforms: while appreciating the efforts of the Ministry of Industries and Mines in recent years, diligent effort is needed to ease the burden of bureaucratic procedures on investment and investors, so as to reduce barriers to entry for foreign investment². One option is to empower the Ministry of Mines and Industries to perform its promotional, regulatory and monitoring functions at comparable levels to internationally established standards. This may require the MMI to deploy numerous highly trained and specialised teams of managers for negotiating each phase of a potential operation with foreign contractors. This may prove to be a difficult task. Establishing and maintaining a balance between transparency and the defence of the country's best interest has proven to require uncompromising ethical and professional standards not fully maintained even in highly advanced countries. As mentioned by Kumar (1990), investment agreements should provide transparent and verifiable assurances to both parties: to protect the investor from unwarranted and unscrupulous demands on one hand, and also to provide safeguards for the government that the investor

1. Aldous (1993) states that increasing confidence in the stability of developing countries was a prime reason for mining companies to shift their capital, that had previously been largely directed to established mining economies in North America, Australia, Europe and South Africa, to mining exploration and development in DCs.

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will respect their obligations on the other.

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سرمایه گذاری خارجی در بخش معادن ایران : نتایج حاصل از بررسی انجام گرفته در باره شرکتهای بین المللی فعال در زمینه استخراج معادن

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چکیده

طرحهای استخراج معادن و فلزشناسی از آن دسته طرحها هستند که نیاز به بیشترین سرمایه گذاریها در ایران دارند. یکی از اهداف طرح فعلی توسعه و نیز وزارت معادن و صنایع جذب سرمایه گذاری خارجی در طرحهای استخراج معادن است. بررسی انجام گرفته درباره برترین شرکتهای فعال در زمینه استخراج معادن در سطح جهان برای تعیین انتظارات آنها و نیز به منظور پیشنهاد چارچوبی برای ایران جهت جذب سرمایه گذاری خارجی بوده است.

این مقاله به ارزیابی عوامل مهم و مقوله های تاثیرگذار بر تصمیم شرکتهای عمده استخراج معادن برای سرمایه گذاری در بخش معادن ایران - و علاوه بر آن دیگر کشورهای در حال توسعه - و ارائه گزارشی در این زمینه پرداخته است.

کلیدواژگان: سرمایه گذاری مستقیم خارجی (FDI)، سرمایه گذاری خارجی در بخش معادن ایران روابط با کشور میزبان در زمینه استخراج معادن، جاذبه خاص محلی در FDI سیاستهای کشور میزبان در زمینه معادن، اهمیت نسبی عوامل عملیاتی گرایشهای فوق العاده عوامل مهم نسبت به FDI در استخراج معادن.

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