THE ROLE OF FOREIGN INVESTMENT IN MINERAL DEVELOPMENT:

A COMPARATIVE ANALYSIS

by

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Doctor of Philosophy
in the Department of International Relations,
The Australian National University

July 1980.
This thesis is my own original work.

Ciaran O'Faircheallaigh
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>v</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Acronyms</td>
<td>vi</td>
</tr>
<tr>
<td>List of Tables</td>
<td>viii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>xi</td>
</tr>
</tbody>
</table>

## PART 1: THE FRAMEWORK OF ANALYSIS

| CHAPTER ONE THE FRAMEWORK OF ANALYSIS | 1     |

## PART 2: THE CASE STUDIES

### THE REPUBLIC OF IRELAND:

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER THREE THE NAVAN ZINC/LEAD DEVELOPMENT: A CASE STUDY IN FOREIGN INVESTOR-HOST COUNTRY RELATIONS</td>
<td>106</td>
</tr>
</tbody>
</table>

### ZAMBIA:

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER FIVE NATIONAL versus CORPORATE CONTROL OF MINERAL RESOURCES: THE ZAMBIAN COPPER INDUSTRY, 1964-1978</td>
<td>213</td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>SIX</td>
<td>AUSTRALIAN GOVERNMENT POLICIES TOWARDS FOREIGN MINING INVESTMENT, 1945-1975</td>
</tr>
<tr>
<td>SEVEN</td>
<td>THE IMPACT OF FOREIGN-FINANCED MINERAL DEVELOPMENT IN AUSTRALIA</td>
</tr>
<tr>
<td>EIGHT</td>
<td>MINERAL DEVELOPMENT IN PAPUA NEW GUINEA: THE COLONIAL PERIOD, 1964-1972</td>
</tr>
<tr>
<td>NINE</td>
<td>MINERAL DEVELOPMENT UNDER A NATIONAL GOVERNMENT, 1972-1978</td>
</tr>
<tr>
<td></td>
<td>PART 3 : CONCLUSION</td>
</tr>
<tr>
<td>TEN</td>
<td>CONCLUSION</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAC</td>
<td>Anglo American Corporation of South Africa Limited</td>
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<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<td>AIDC</td>
<td>Australian Industry Development Corporation</td>
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<td>AMAX</td>
<td>American Metal Climax, Incorporated</td>
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<td>ANC</td>
<td>African National Congress</td>
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<td>APT</td>
<td>Additional Profits Tax</td>
</tr>
<tr>
<td>ARDB</td>
<td>Australian Resources Development Bank</td>
</tr>
<tr>
<td>BCL</td>
<td>Bougainville Copper Limited</td>
</tr>
<tr>
<td>BCPL</td>
<td>Bougainville Copper Proprietary Limited</td>
</tr>
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<td>BMR</td>
<td>Bureau of Mineral Resources, Geology and Geophysics</td>
</tr>
<tr>
<td>CPD</td>
<td>Commonealth Parliamentary Debates</td>
</tr>
<tr>
<td>CRA</td>
<td>Conzinc Riotinto of Australia Limited</td>
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<tr>
<td>ICSID</td>
<td>International Centre for the Settlement of Investment Disputes</td>
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<td>IBM</td>
<td>Irish Base Metals Limited</td>
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<td>INDECO</td>
<td>Industrial Development Corporation Limited</td>
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<tr>
<td>LDC</td>
<td>Less Developed Country</td>
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<td>LME</td>
<td>London Metal Exchange</td>
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<td>MIMSU</td>
<td>Mining Industry Manpower Services Unit</td>
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<td>MINDECO</td>
<td>Mining Development Corporation Limited</td>
</tr>
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<td>MKU</td>
<td>Mary Kathleen Uranium Limited</td>
</tr>
<tr>
<td>NCCM</td>
<td>Nchanga Consolidated Copper Mines Limited</td>
</tr>
<tr>
<td>NIF</td>
<td>National Investment Fund</td>
</tr>
<tr>
<td>PMA</td>
<td>Petroleum and Minerals Authority</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>RCM</td>
<td>Roan Consolidated Mines Limited</td>
</tr>
<tr>
<td>RRT</td>
<td>Resource Rent Tax</td>
</tr>
<tr>
<td>RSG</td>
<td>Resources Study Group</td>
</tr>
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<td>RST</td>
<td>Roan Selection Trust Limited</td>
</tr>
<tr>
<td>RTZ</td>
<td>The Rio Tinto-Zinc Corporation Limited</td>
</tr>
<tr>
<td>TPNGL</td>
<td>Territory of Papua and New Guinea</td>
</tr>
<tr>
<td>UDI</td>
<td>Unilateral Declaration of Independence</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNIP</td>
<td>United National Independence Party</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>UNZA</td>
<td>University of Zambia</td>
</tr>
<tr>
<td>UPNG</td>
<td>University of Papua New Guinea</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>ZIMCO</td>
<td>Zambia Industrial and Mining Corporation</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Financial Statistics, Tynagh and Gortrum Mines, 1966 to end 1977</td>
<td>82</td>
</tr>
<tr>
<td>Table 2</td>
<td>Income Tax Liability of Mining Companies in Ireland, 1973-1977</td>
<td>83</td>
</tr>
<tr>
<td>Table 3</td>
<td>Mining Company Expenditure on Wages and Salaries in Ireland, 1964-1977</td>
<td>90</td>
</tr>
<tr>
<td>Table 4</td>
<td>Local Disbursements by Mining Companies in Ireland, 1964-June 1973</td>
<td>91</td>
</tr>
<tr>
<td>Table 5</td>
<td>Net Foreign Exchange Inflow, Tynagh and Gortrum Mines, 1966-1972</td>
<td>97</td>
</tr>
<tr>
<td>Table 5A</td>
<td>Composition of Foreign Exchange Outflow, Northgate Group, 1966-1972</td>
<td>99</td>
</tr>
<tr>
<td>Table 6</td>
<td>Zambia's Copper Production, Selected Years 1942-1964, and 1964-1978</td>
<td>180</td>
</tr>
<tr>
<td>Table 7</td>
<td>Direct Financial Impact of the 1969 Take-over on the Zambian Government. 1970-1973 (Actual) and 1974-1978 (Estimated)</td>
<td>194</td>
</tr>
<tr>
<td>Table 8</td>
<td>Direct Government Revenue Generated by the Zambian Copper Industry, 1964-1978</td>
<td>218</td>
</tr>
<tr>
<td>Table 9</td>
<td>Employment in the Zambian Copper Industry, Selected Years 1952-1970, and 1970-1978</td>
<td>222</td>
</tr>
<tr>
<td>Table 10</td>
<td>Wage and Salary Payments by the Zambian Copper Mining Companies, Selected Years 1952-1973 and 1973-1977</td>
<td>227</td>
</tr>
<tr>
<td>Table 11</td>
<td>Average Expatriate and African Incomes on the Zambian Copper Mines, Selected Years 1952-1973 and 1973-1977</td>
<td>228</td>
</tr>
<tr>
<td>Table 12</td>
<td>Zambia's Copper Exports and Total Exports by Value, 1964-1978</td>
<td>234</td>
</tr>
<tr>
<td>Table 13</td>
<td>Funding of Capital Expenditure in the Zambian Copper Industry, 1971-1977</td>
<td>238</td>
</tr>
<tr>
<td>Table 14</td>
<td>Australian Tax Rates, Mining Companies and All Companies, 1967/8-1973/4</td>
<td>313</td>
</tr>
<tr>
<td>Table 15</td>
<td>Royalties and Income Taxes paid by the Australian Mining Industry, Selected Years 1965-1971 and 1972-1977</td>
<td>330</td>
</tr>
<tr>
<td>Table 16</td>
<td>Direct Employment in the Australian Mining Industry, Selected Years 1966-1978</td>
<td>333</td>
</tr>
<tr>
<td>Table 17</td>
<td>Output, and Value of Fuels and Electricity Consumed, Mineral Processing and Total Manufacturing, Australia, 1975/6</td>
<td>346</td>
</tr>
<tr>
<td>Table 18</td>
<td>Financial Statistics, Bougainville Copper Limited, 1972-1978</td>
<td>474</td>
</tr>
<tr>
<td>Table 19</td>
<td>Government Revenue Generated by Bougainville Copper Limited, 1970-1979</td>
<td>475</td>
</tr>
<tr>
<td>Table</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Table 20</td>
<td>Direct Employment Generated by Bougainville Copper Limited, 1972-1979</td>
<td>478</td>
</tr>
<tr>
<td>Table 21</td>
<td>Bougainville Copper Limited's Expenditure on National and Expatriate Salaries, 1969/72-1978</td>
<td>478</td>
</tr>
<tr>
<td>Table 22</td>
<td>Net Foreign Exchange Inflow from the Bougainville Mine, 1972-1978</td>
<td>486</td>
</tr>
</tbody>
</table>
Introduction

My aim in undertaking this thesis was to discover, as accurately as possible, what occurs in and between countries when foreign investments are made in mineral development. In this regard, two areas were identified as requiring attention. 1) The nature of the transactions which constitute the process of foreign investment on the physical level. What is involved here are movements across national boundaries of objects, money and instruments of credit, information (interpreted in its widest sense to include technologies, skills and ideas), and individuals. 2) The nature of the relationships which are created between foreign investors and governments (or other relevant political identities) in countries where foreign investments are made. These areas can be dealt with separately for purposes of analysis, but they are closely interrelated in practice. The nature of physical transactions (or perceptions of the same) play a crucial role in determining the character of host country-foreign investor relations, and the policies and attitudes adopted by host country authorities exercise an important influence, in turn, on the physical effects of foreign investments.

There is of course little agreement as to what are the effects, beneficial or otherwise, of foreign investment. This lack of agreement is not entirely a result of differences in political outlook (though such differences are sometimes important). It results to some extent from a scarcity of 'hard' factual information. The literature abounds with checklists of
perceived 'costs' and 'benefits',¹ but studies which present empirical data concerning particular cases of foreign investment are much less plentiful. The paucity of such works is partly due to the difficulty of obtaining relevant information, but it also reflects a failure to undertake detailed studies of individual companies and/or projects. Where possible, studies of this type have been attempted in the thesis.

Uncertainty as regards the effects of foreign investments also reflects the existence of two methodological problems associated with study of the subject. The first involves the difficulty of attaching significance to particular impacts in individual countries. It is unlikely that a particular effect will have the same significance in countries with different economic, social and political characteristics. What criteria should be applied in assessing the significance of a certain impact in any given situation? The second problem arises from the difficulty of distinguishing between the impact of foreign-financed mineral development and mineral development per se. Such a distinction is required if a causal relationship is to be established between events in the host country and the specifically foreign nature of the mining investment which has occurred.

Neither of these problems is susceptible to easy solution, but it is important to state explicitly what position is

adopted in relation to both before embarking on a study of this kind, as the position taken can have an important bearing on the manner in which empirical data is interpreted. This is done in the first part of Chapter One.

Part II of that Chapter outlines the kinds of effects which are considered in analysing the impact of foreign mining projects. It seeks to provide a broader perspective against which the analysis of individual projects can be conducted, by discussing the economic and other issues raised by foreign mining investment. One such issue involves the possible effects of foreign investors on political processes in the host country. As mentioned already, a close interrelationship exists between the policies pursued by host country authorities and the outcome of foreign investments, and this provides the background to the development of host country-foreign investor relations. Part III of Chapter One reviews some existing literature regarding the nature of those relations, and suggests some alternative perspectives. The various viewpoints discussed will be reconsidered in the Conclusion in the light of the case study material.

II

A case study approach was adopted in order to permit detailed empirical studies of specific projects and of policies pursued by individual host country governments. The scope of the thesis was set to include countries characterised by varying economic, social, political and historical circumstances. The intention is both to examine the manner in which these circumstances affect the foreign investment process, and to discover what the interaction between the two reveals
about the nature of that process. The actual choice of case study countries was influenced by the scope they allowed for original research, and by the ease of access they offered to research material (particularly by the feasibility of conducting field work). The countries chosen were Australia, Ireland, Papua New Guinea and Zambia.

Each case study will outline the manner in which foreign mining investment has occurred, discuss the mineral policies of the government concerned, analyse the economic and other effects of foreign mining projects, and attempt to assess the appropriateness of host government policies and the nature of host government-foreign investor relationships. In the studies of Ireland, Papua New Guinea and Zambia, a narrative approach will be adopted; developments relating to individual projects and/or companies will be outlined, and the analysis conducted at appropriate stages of the narrative. It is possible to adopt this approach because each of these countries is host to only two or three major companies mining one or two commodities, and consequently detailed studies of individual projects can be combined with an analysis of the broad national and international issues arising from the position of the mining industry as a whole within each country. This possibility is excluded in Australia because of the wide range of minerals produced and the large number of corporations involved. An examination of a few companies or projects in one or two sectors would be unlikely to provide a basis on which to

2 Thus a South American country was not included because considerable research has already been conducted on foreign mining investment in the region, reducing the scope for original work, and because financial constraints rendered field work impossible.
deal with national issues, while constraints of time and space made a comprehensive approach impossible. Thus in the Australian case, government policies and the assumptions on which they were based will first be outlined, and the validity of those assumptions and the appropriateness of policies subsequently examined in the light of an analysis of the economic and other effects of foreign mining investment as a whole.

III

Before outlining its subject matter in more detail, it may be useful to clarify what the thesis does not attempt to do. First, it does not attempt an exact calculation of every impact of foreign mining investment with the aim of arriving at a single figure which would stand for all economic and other costs and benefits. While it is important to gauge the various effects of foreign investment as accurately as possible, I do not believe it is feasible to arrive at such a figure. Certain costs or benefits cannot be quantified, the significance of a particular impact can vary from case to case, and assessment of certain effects require value judgements which only policy-makers in the host country are qualified to make. In any case, such a figure would reveal little about the economic and political processes which led to a particular outcome. Rather the aim of the thesis is to identify the various effects of foreign-financed mineral development, assess their significance from the host country's point of view, and isolate the factors which determine the scale and direction of those effects. Such

an approach can yield useful information regarding the character of foreign mining investment, the kinds of policies which are likely to maximise its benefits and minimise its costs to the host country, and the nature of the foreign investor-host country relationship.

Second, my main concern is with what occurs when a foreign mining investment is made, not with what motivated that investment. Corporate motivation may of course have an important bearing on the outcome of an investment, and the issue is not ignored, but neither is it a focus of attention. However, one general point should be made regarding the motives of the companies encountered in this study. With few exceptions, they were not concerned to secure captive sources of raw materials for consumption in their home countries. Rather their aim was to apply their capital profitably in developing minerals for sale in markets outside their home countries. As will become apparent, this fact had important implications for the host countries.

Third, the thesis is not concerned with the nature of international trade in minerals, or with what this implies for the relationship between mineral exporting and mineral consuming countries. This issue is enormously important for both the host country and the foreign investor, as in most cases the value accorded minerals in international trade determines the size

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4 The exceptions involved European aluminium companies and British lead/zinc producers operating in Australia.

5 Canadian companies developed Irish minerals for sale in Europe; American and South American companies developed Zambian copper for sale in Europe and Japan; British and American companies developed Australian and Papua New Guinea minerals for sale in Japan and Europe.
of the surplus available for distribution between the two. However, the focus of the thesis is on the manner in which that distribution occurs, rather than on the factors which determine its perimeters.
Chapter One

THE FRAMEWORK OF ANALYSIS

This chapter outlines the framework of analysis used in the thesis. First, some methodological questions raised by a study of this type are examined. Second, the kinds of effects considered in analysing the impact of foreign mining investments are discussed in general terms, and economic and other issues arising from them are considered. Finally, a number of theories regarding the nature of host country-foreign investor relations are discussed.

I

Two principal methodological problems were encountered. The first, especially relevant in a comparative study, arises from the difficulty of assessing the significance of particular impacts in individual countries. For example, provision of employment in areas of Ireland suffering from economic and social decline may obviously have implications quite different to creation of employment on a similar scale in remote and sparsely populated areas of Australia. In other words, describing the physical impacts of foreign investment does not automatically allow weight and significance to be attached to those impacts, that is to assign them as 'costs' or 'benefits' of various magnitudes.

Two alternative approaches could be adopted in dealing with this problem. The first would involve a calculation of
the extent to which various impacts have aided or obstructed host country governments in pursuit of their policy aims. For instance, generation of foreign exchange by a foreign mining operation would be assigned as a 'benefit' where the government was concerned to maximise foreign currency inflow, with the significance of the benefit being determined by the size of its contribution in relation to total perceived needs. Likewise if utilisation of foreign investment diminished the possibility that a government's desire to have minerals processed locally would be satisfied, this impact could be assigned as a 'cost', whose magnitude would depend on the scale of economic opportunities believed to have been lost. A second approach would be to inquire whether foreign mining investment had contributed to a more efficient utilisation of resources (by mobilising idle resources or by attracting resources from alternative, less productive uses), or whether it had the opposite effect. This approach could lead to quite different conclusions from the first. For example, it might transpire that mineral processing would represent a relatively inefficient use of resources, and the failure of foreign companies to invest in processing would consequently not be regarded unfavourably. This second approach is essentially that of the economist, who attempts to establish optimum patterns of resource allocation, and assesses particular economic activities by gauging the extent to which they contribute to or detract from achievement of the optimum. The political orientation of the thesis, and my own training, would indicate that it would be more appropriate (and more prudent) to adopt the
first approach, but to do so would create a major difficulty. It would involve acceptance of government policies as given, excluding any critical element from the analysis. This would be undesirable for at least two reasons.

First, it would diminish the practical value of the study, which would merely consist of a catalogue of policies, a catalogue of impacts, and a comparison between the two. No conclusions could be reached regarding the appropriateness of the policies being pursued. In other words, no recognition would be given to the fact that policies can play a role in determining the impact of foreign mining investment, and that policy-makers should take account of the likely or actual effects of such investment in formulating policies. For instance, it might be stated that only a small percentage of the foreign exchange earned by a foreign mining project remained in the host country, and that the project consequently contributed little to government endeavours to overcome balance of payments deficits. But the important issues in this case (both in terms of their inherent interest and in terms of their implications for policy-making) are, for example, whether a higher proportion of foreign exchange could have been retained if different policies had been adopted, or whether a low level of net foreign exchange inflow is inevitably associated with this type of project? If the latter, could the host country pursue a more sensible strategy in attempting to balance its external transactions?

Second, a crucial issue in examining host country-foreign investor relations involves the possibility that foreign investors might influence host country authorities
into adopting policies which are in fact not likely to maximise host country returns from mineral development. From this perspective also it is essential to assess the appropriateness of government policies.

Thus it is not desirable to avoid prescription altogether. In any case, it would probably be impossible to do so, as an empirical analysis of the impact of foreign mining investment will almost inevitably generate conclusions regarding the appropriateness of host country policies.

For these reasons, a compromise approach has been adopted. Attention is focused on the extent to which foreign mining investment accords with host government policies, but in addition the appropriateness of those policies is assessed in the light of economic and other circumstances prevailing in individual host countries, of their effect on foreign mining investment, and of the actual impact of such investment. This assessment frequently does involve judgements as to the efficiency of allocating resources in one way rather than another, but does not require a rigorous economic analysis aimed at establishing optimum patterns of resource allocation.

The second methodological problem arises from the need to establish a causal relationship between the occurrence of foreign mining investment and empirically-observed phenomena in the host country. In one sense, this relationship can be established quite easily, as foreign mining projects are clearly responsible for particular physical occurrences. However, the question arises as to whether the foreign nature of the investment concerned is responsible, or whether those occurrences would result from any type of mineral development?
To answer this question, we require a basis of comparison which, by illustrating what would happen in alternative situations, would permit the effect of the specifically foreign nature of an investment to be isolated. However, serious difficulties arise in devising an acceptable basis of comparison.

One approach would be to ask what was the most likely alternative to foreign investment in each individual case, to indicate the likely outcome had this alternative materialised, and to compare that outcome with the actual impact of foreign investment. Three major problems would be associated with such an approach. First, it is frequently unclear what was the most likely alternative to foreign investment in particular instances. This applies, for example, in the case of Australia. A number of Australian individuals and corporations have involved themselves very successfully in mineral development, and it could be argued that, in the absence of foreign investment, additional domestic resources would have been mobilised and all viable mineral deposits exploited. The most likely alternative to foreign investment would therefore be domestic investment. On the other hand, it could be the case that existing Australian companies have absorbed all, or nearly all, of the relevant resources (e.g. risk capital, technical and managerial skills) available domestically, and that the most likely alternative to foreign

1 If this were the case, the question would arise as to why domestic investors should not have undertaken mineral developments in any case. This question might be dealt with in terms of the ability of multinational mining corporations to pay a higher price for mineral resources, and/or in terms of a competitive edge possessed by such companies in the discovery of minerals.
investment is no investment. The truth probably lies somewhere in between, but precisely where?

Second, even if it could be stated with certainty that domestic investment was the alternative to foreign investment, what assumptions are made about the character and behaviour of the domestic investors? Would their mining operations have been as efficient as those of the foreigners who did invest? Would they have enjoyed similar market outlets, or applied similar criteria in assessing prospective investments?

Third, at any particular time the alternative to foreign investment frequently is total lack of investment. For example, during the 1960s and early 1970s a foreign investor explored for, developed and brought into production at a cost of A$400 million a massive low-grade copper deposit on Bougainville Island in Papua New Guinea. Domestic private investment on such a scale was inconceivable: the necessary resources, capital or human, simply did not exist. Neither was there any possibility that the Australian Administration would establish and finance a Papua New Guinea state mining company to develop the deposit, regardless of whether foreign investors were willing to undertake the project or not. Thus the alternative to foreign financed material development was no mineral development at all, and consequently there is no basis of comparison on which to identify the effects of the foreign nature of the investment which did occur.

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2 This is evident from the Administration's policy statements and actions at the time. See Chapter Six below.
A second approach would be to posit some hypothetical form of investment which would then be used as a basis for comparison, an approach frequently adopted, though usually implicitly, in the literature on foreign mining investment in developing countries. For example, a comparison is made between the impact of the foreign investment and the expected outcome had mineral development been undertaken by a highly-efficient public mining corporation acting to maximise benefits and minimise costs from a national perspective; divergencies between the two are thought to represent the effect of the former's foreign nature. 3

This approach also creates difficulties, in that it requires assumptions regarding the properties which would be attributed to various kinds of hypothetical investment. In the literature, such assumptions usually reflect the political inclinations of the individual involved rather than any basis in fact. It is assumed, for example, that private enterprise would be inherently more efficient than public enterprise, or vice versa. My research produced little empirical evidence to support contentions of this type; as regards this specific example, efficient and inefficient private mining enterprises and efficient and inefficient public enterprises were encountered. In addition, the comparison frequently does little to illustrate the impact of the foreign nature of an investment, because of the type of assumption made, a point illustrated by the example quoted

3 This approach characterises many socialist critiques of foreign mining investment. See, for example, Resources Study Group, Navan and Irish Mining: Documentation of an £850,000,000 Robbery, (Dublin, 1972).
in the previous paragraph. No private investor could be expected to undertake activities which, though maximising benefits from a national perspective, might result in financial loss to himself. Thus much of the comparison is in reality between the hypothetical investment and any form of private investment.

In fact it proved impossible to devise a general basis of comparison which would illustrate the effects of the foreign nature of foreign mining investments. All that can be done is to make clear in the case studies precisely what type of causal relationship is being claimed and, where comparisons are made, to make explicit the assumptions on which they rest.

II

Five general kinds of effects that have arisen, and been considered separately, in the literature are dealt with in analysing the impact of foreign mining investment in the case study countries. First, such investments may generate incomes for nationals, by creating employment, providing a market for goods and services, providing raw materials for mineral processing, or generating economic rents which can be taxed by government. These incomes may accrue to the host country as foreign exchange, allowing it to finance imports of goods and services. Second, the investment process may involve provision of resources which are in scarce supply in the host country, particularly capital, technology, and technical and other skills. Third, foreign mining projects may create external economies which allow nationals to enhance their incomes, for example if 'spill-over' of technology or technical
expertise allows domestic enterprises to operate more efficiently, or if mine infrastructure is utilised in other economic activities. Fourth, mining activity may create external diseconomies, by absorbing resources which have alternative uses, by using inappropriate technology, or by adversely affecting consumption patterns or domestic income distribution. Finally, foreign mining investment may have politically undesirable effects. Host country sovereignty may be undermined, or foreign investors may subvert domestic political processes to ensure policy outcomes favourable to themselves.

**Generation of national incomes**

Perhaps the most apparent impact of foreign investment is that the economic activities it allows create financial surpluses. One of the principal areas of interest in the literature is the question of how and to whom these surpluses accrue. Do they accrue entirely to the foreign investor? If not, how are they distributed? How should they be distributed? Can foreign investors remove surpluses from host country jurisdiction and so skew the distribution in their own favour?

These questions are particularly relevant in the area of mineral development, as economic rents or 'profits in excess of an appropriately risk-adjusted rate of return on funds employed' are frequently substantial. The ability of mineral

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producers to exact such rents results from the scarcity, current or future, of mineral resources (reflecting their non-renewability and their uneven distribution), from the imperfect nature of competition in mineral industries, and from the fact that mineral deposits vary considerably in richness, accessibility, and ease of exploitation. This last factor means that while marginal deposits will, by definition, merely generate sufficient surplus to ensure continued investment and production, non-marginal mines can generate considerably greater surpluses. In sum, mineral exploitation can generate profits far in excess of those required to ensure continued development.

This situation provides host country governments with an opportunity to enhance revenue substantially. And there are strong arguments for asserting that economic rents should accrue largely, if not entirely, to the host country. One such argument is ethical: since mineral resources are generally believed to belong to society as a whole, it is felt that profits in excess of necessary payments to factors of production (e.g. wages, interest payments, operating expenses, appropriate returns to capital) should accrue to the community. In economic terms, the concept of tax neutrality (discussed

\[5\] For a fuller discussion of these factors, see ibid., pp. 23-5.

\[6\] In theory, the host country could confiscate 100 per cent of economic rents without affecting mineral development, but this would remove the incentive for operational efficiency, as after-tax profits would remain unchanged for a wide range of production costs.
in footnote\(^7\)) offers a strong incentive for appropriation of economic rents.

Thus it is important that host country authorities apply appropriate taxation arrangements to foreign mining projects. Two general considerations are relevant in formulating such arrangements – to maximise government revenue, and to avoid deterring investment or distorting production decisions. These requirements will frequently conflict, and the extent to which they can be reconciled depends importantly on the manner in which taxes are collected.

Profit-based taxes which reduce the post tax rate of return below the rate required by foreign investors, or are expected to do so, will deter investment; taxes which are a cost on production (unit or ad valorem royalties)\(^8\) may also distort production decisions. In theory, these effects are avoided where revenue is raised solely by taxation of economic rents. By definition, such taxation will not reduce the post tax rate of return below that required by foreign investors, and neither will it affect

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\(^7\)**Taxes are not neutral when they apply to that portion of revenue which is required to keep a factor (e.g. labour, capital) in a certain use. Where non-neutral taxes apply, resources will be allocated on criteria other than efficiency (which is assumed to be the basis of allocation in a 'free market' economy). Thus, a tax system should be designed so as to draw as high a proportion of revenue as possible from taxes which are neutral, that is taxes imposed on profits in excess of those required to keep a factor in a certain use. By definition, taxation of economic rents falls into this category. In practice, taxes which are neutral will rarely provide sufficient revenue, and must be supplemented by non-neutral taxation. But this simply provides an added motive for confiscating as high a proportion of economic rents as possible so as to lessen the burden of non-neutral taxes. See B. Smith and A.M. Ulph, op.cit., especially pp. 2-4, 9.**

\(^8\)**Unit royalties are charged as fixed sums on each unit of production, ad valorem royalties as a percentage of the value of production.**
production decisions since it will have no impact on the point at which marginal costs equal price.

However in practice application of rent taxation by individual governments may not be neutral in its effects on investment and production decisions. Competition among host country governments for foreign investment may lead one or more of them to forego rents and, where the access of the foreign investors to capital and/or to market outlets is limited, application of rent taxation by other countries may deter investment and/or lead to a decline in utilisation of existing capacity.

In addition, practical difficulties arise in devising a tax system which will capture a high proportion of economic rents and will capture only economic rents. Governments operate with imperfect knowledge, and rarely know what is 'an appropriately risk-adjusted rate of return'. The rate may be set too high, allowing rents to escape taxation and encouraging wasteful investment, or too low, bringing the post tax rate of return below that required by the investor. There are also important political constraints which militate against adoption of a purely rent-based tax system. Governments are rarely certain in advance that rents will materialise, and neither they nor their constituents are prepared to accept the possibility that their country may not obtain any financial returns from exploitation of its mineral resources. Consequently, profit or production-based taxes are usually applied. This of course increases the foreign investor's uncertainty as to the outcome of his investment, in other words it increases the variance of possible outcomes,
leading him to demand a higher expected rate of return. As a result, certain projects may be rendered marginal, and economic rents which might otherwise have materialised may be reduced or eliminated. Governments may be willing to accept this situation because of a preference for an expected income stream which, though lower, is more certain.

Finally, it should be noted that the above discussion relates to situations in which governments are seeking new investment, whether by operating companies or by companies which will base their investment decisions on the expectation of being treated in a manner similar to such companies. A substantially lower rate of return will be required to ensure that existing mines continue to be operated efficiently, and where no new investments are expected, either by way of expansion of existing mines or establishment of new mines, a government may be able to capture a very high proportion of total profits.

Thus the important issue is the extent to which host country taxation systems reconcile the need for revenue with that for further investment and efficient mineral exploitation, given the circumstances which prevail in a particular country and given the various constraints under which taxing authorities operate. Each case study outlines in detail the

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taxation policies of the host government involved and the political and other considerations which have helped shape them, examines their effects on foreign mining investment, and attempts to assess their appropriateness in the light of circumstances in that country and of the earlier general discussion.

Another issue which arises in relation to mineral revenues is the possibility that foreign mining companies might avoid taxation by disguising part or all of their profits and removing these sums from host country jurisdiction; in other words they may be in a position to define 'taxable profit'. The most commonly discussed method of doing this is by transfer pricing. Put simply, this involves the ability of corporations which control more than one stage of the productive process (i.e. are vertically integrated) to set their own prices for transactions between affiliates. Where a foreign investor can engage in this practice, he has the ability to define profitability at each stage of the productive process and, where these stages occur in a number of countries, can determine the point at which profits will appear as taxable surpluses. If conditions in a host country warrant it (e.g. high levels of taxation, restrictions on profit remittance), he can remove profits to another location.

Transfer pricing creates particular difficulties for host countries as the lack of an 'open' market usually denies them
any reference point by which to judge the 'real' value of the commodity concerned. The same is often true where it is suspected that licence, patent or service fees paid by a subsidiary to a parent company are being utilised to transfer profits.\(^\text{11}\)

Another way in which incomes may accrue to nationals is through creation of employment, seen by many policymakers as one of the most important benefits of foreign mining investment. Opponents of such investment argue that foreign-financed mining projects tend to be capital rather than labour intensive, and so employ relatively few people.

Two distinct questions arise in relation to the capital intensity of mining operations. First, could resources utilised in mining have been employed in alternative, more labour-intensive uses? If not, then from this perspective any employment resulting from foreign mining investment represents a net gain in relation to a situation in which that investment did not occur. Second, could or should mining operations themselves be more labour-intensive? It is important to clarify what is involved here. In theory, it is possible that use of alternative mining methods or technologies could allow substitution of labour for capital without affecting the size of economic rents. In practice, it is very unlikely that this would be the case — in any given situation, substitution of one factor for another would probably increase

or diminish economic rents, depending on relative factor costs. Thus a host country must decide whether its aim is to maximise economic rents, in which case it will allow foreign investors to employ profit-maximising factor combinations, or whether it wishes to maximise employment, in which case it must accept that, in certain circumstances, economic rents will be diminished.

Foreign mining investment may also add to national incomes by creating additional economic activity through linkage development. Proponents of foreign investment frequently view projects it finances as 'engines of growth' which induce economic expansion elsewhere in the economy by creating a demand for goods and services (backward linkage) and by supplying inputs to other industries (forward linkage). Alternatively, foreign financed projects are seen as 'enclaves' which are located in the host country in a geographical sense only, and which, because of their pattern of sales and purchases, are integrated into the international corporate economy of affiliated or associated companies rather than into the domestic economy.


13 The classic exposition of this view is that by H.W. Singer, 'U.S. Investment in Underdeveloped Areas: The Distribution of Gains Between Investing and Borrowing Countries', American Economic Review, Papers and Proceedings, Vol. XL (May 1950), pp. 473-85. For a more recent discussion of the way in which multinational corporations are integrated into the international corporate economy, see N. Girvan, 'Multinational Corporations and Dependent-Underdevelopment in Mineral Export Economies',
The case studies outline the extent to which linkage development has actually occurred, and attempt to assess the degree to which the foreign nature of mining investment has inhibited linkage growth, if at all. The appropriateness of host country policies towards linkage development is also considered.

For many host countries, a positive contribution to the balance of payments is regarded as the principal justification for encouraging foreign investment. The foreign exchange earnings represented by such a contribution are believed to be indispensible if imports of essential goods and services are to be maintained. A favourable balance of payments effect can emerge from an excess of capital inflow over outflow of capital and interest, or from the earnings of foreign financed export industries. Critics point out that the long-term effect of foreign investment may in fact be a balance of payments deficit (which, by definition, must be the case on capital account) and, where this is not so, that the net balance of payments effect may be very much smaller than gross foreign exchange earnings. 14

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A number of authors have questioned the validity of attaching importance to the balance of payments impact of mining projects as such. They point out that this effect is largely determined by the extent to which incomes generated by mining accrue to domestic factors of production and to the taxing authority. As B.L. Johns has commented in relation to Australia,

overseas investment cannot bring about improvement in the balance of payments unless it results in higher incomes for Australian residents (including ... the tax receipts of the public authorities) ... [if] we have already taken account of the various ways in which the incomes of Australians might be increased as a result of overseas exploitation of our mineral wealth, it would be inappropriate to allow for the balance of payments effect as an additional factor.\(^1\)

From this perspective the only relevant policy question relating to the direct balance of payments impact of foreign mining investment\(^1\) is whether the increase in domestic income it allows is greater than or is matched or exceeded by the increase in expenditure on imported goods and services.\(^1\)

There has been a fundamental failure in some host countries to comprehend fully the link between the impact of foreign investment on domestic incomes and its effect on


\(^{16}\) Foreign mining investment and/or mineral exports could of course exercise an impact on the balance of payments indirectly, for example by creating pressure for currency revaluation.

\(^{17}\) See, for example, R. Garnaut, 'Resource Trade and the Development Process in Developing Countries', in L.B. Krause and H. Patrick, op. cit.,pp.152-3.
the balance of payments, principally because creation of export income has been identified as the relevant criterion in examining this latter effect. This failure has resulted in the anomalous situation in which the granting of generous taxation concessions to foreign mining companies has been justified in terms of the export receipts which mineral development is expected to generate, whereas such measures themselves reduce the amount of foreign exchange available to the host country for purchases of essential goods and services.

In each case study an attempt is made to calculate the net foreign exchange inflow resulting from foreign mining operations. This is done by calculating the difference between the inflows of capital and export receipts and outflows of dividends, interest payments, debt repayments, undistributed profits, and direct and induced imports; that difference equals the total of domestic incomes, or the 'retained value' of mining operations. An attempt is also made to identify the various components of national income as accurately as possible.

This exercise illustrates the link between the impact of foreign investment on national incomes and on the balance of payments, while the identification of individual categories of foreign exchange outflows and of the composition of retained value will provide useful evidence on which to assess the impact of foreign mining investment and the appropriateness of government policies.
Provision of scarce resources through the investment process

The most obviously apparent advantage of foreign investment in this regard is that it provides capital in situations of inadequate supply, whether these result from an absolute shortage of domestic capital or from inefficiencies in its allocation. Proponents of foreign investment argue that host countries can also benefit substantially from transfers of technology and technical and other skills, especially where processes or skills are passed on to domestic companies and/or to other sectors of the economy. Those opposed to foreign investment argue that the type of technology introduced may be inappropriate (e.g. by emphasising use of scarce capital as opposed to plentiful labour), and that the skills imparted rarely have application outside the foreign investor's own industrial process.

The accuracy of these opposing viewpoints will be examined in the case studies, but at this stage one general point should be made. The application of technologies and skills by foreign investors can only be regarded as a benefit

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19 The question arises as to why profit maximising firms would not use technologies which took advantage of domestic factor endowments, since they could presumably reduce production costs by doing so. The explanation might lie in the absence of appropriate equipment or techniques (reflecting the concentration of research and development in the developed countries), or in the comparatively low cost of capital within the economy of the multinational corporation itself. N. Girvan, 'Multinational Corporations and Dependent Underdevelopment ...', pp.315-6.

20 ibid.; P.E. Evans, 'National Autonomy and Economic Development: Critical Perspectives on Multinational
from the host country's point of view to the extent that it captures the fruits of the more efficient utilisation of resources which results. Where the effect is to render otherwise uneconomic mineral deposits marginal, the benefit to the host country depends on the extent to which local factors of production are employed. Where economic rents are generated, it also depends on the degree to which these are captured by the taxing authority.

Creation of external economies

In addition to any 'spill-over' of technology or expertise, foreign mining investment may create external economies by providing infrastructure which can be used in non-mining activity. Activities which would otherwise be uneconomic may be rendered viable, or incomes from existing activities may be increased because freight, power or other costs are reduced.

In some cases governments construct infrastructure and may or may not charge mining companies for its use. Where charges are made the question arises as to whether these fall short of, or exceed, the cost of providing infrastructure. If the former is the case or if infrastructure is provided free of charge, the rationale for such a policy requires assessment.


21 Where infrastructure is particular to mining operations, its provision cannot be regarded as a benefit to the host country in addition to the direct economic impact of mining itself.
Creation of external diseconomies

A number of external diseconomies may be associated with foreign mining investment. Foreign investors may absorb resources which could have been utilised in other economic activities, creating opportunity costs which must be allowed for in assessing their contribution to national incomes. For instance, foreign concerns sometimes utilise precisely those sources of local capital whose paucity supposedly justifies their presence. Two major studies of foreign investment in general have concluded that this practice is widespread, and a third study has estimated that US companies operating abroad raise 60 per cent of their capital locally.

Also relevant in this context is the fact that foreign mining investment absorbs non-renewable mineral resources. In this instance an opportunity cost may also be created, in that domestic investors who might later have developed the capacity to exploit those resources are denied the opportunity to do so. The point at issue here is whether the immediate benefits of foreign-financed mineral development outweigh the future benefits of domestically-financed mineral development, after application of an appropriate discount rate to the latter.

This is an extremely complex issue, as it demands assumptions regarding movements in prices and production costs for individual minerals over time, assumptions which can seldom be made with very much certainty or accuracy.\textsuperscript{24} Other issues are also involved. What changes are expected to occur over time in the magnitude or significance of any spin-off effects anticipated from mineral development? To precisely what extent and over what time period is domestic expertise expected to develop? Political factors are also relevant. For example, a government attempting to establish its legitimacy in a newly-independent country or simply trying to retain office may place a high value on benefits expected to accrue in the short term.

It would clearly be impossible to reach precise conclusions regarding the economic advisability of 'leaving minerals in the ground' in any given situation. Thus in the case studies this issue is dealt with in general terms only, and it is in that context that the appropriateness of the time horizons actually employed by decision-makers will be assessed.

An issue related to that of resource absorption involves the possibility that foreign investors may pre-empt domestic investment, by buying up or pushing out domestic firms operating in dynamic and profitable sectors of the economy. This could occur, for example, where domestic companies lack access to the capital required to develop

\textsuperscript{24} Of course this in itself adds to the uncertainty of 'leaving minerals in the ground', and will result in the application of a higher discount rate to future earnings.
mineral discoveries, and have to sell out to foreign firms. Alternatively, foreign companies may be able to outbid domestic rivals for resources discovered by third parties, for instance because the global strategy of the foreign company confers additional value on the resource, or because its superior technical abilities raise the expected rate of return from the project.

It can be argued that the ability or willingness of foreign companies to act in this manner reflects their possession of real strengths which increases their capacity to exploit minerals efficiently. If the host country can capture part of the additional surplus generated by more efficient mineral exploitation, the immediate result of permitting foreign investment may be an overall increase in domestic incomes. On the other hand, it may be that pre-emption of domestic investment carries significant long-term detrimental effects, for example if domestic expertise in the mining field is stunted by being denied the returns which accrue to the resource developer.

The case studies will hopefully throw some light on these issues.

Foreign investors may also create external diseconomies by encouraging inappropriate consumption patterns in the host country. Consumption patterns may be deemed inappropriate on a number of grounds, for instance if they result in unnecessary use of resources which could profitably be

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25 This viewpoint is argued, for example, by A.G. Frank, Capitalism and Underdevelopment in Latin America, (Monthly Review Press, New York, 1967), p. 313.
employed elsewhere (e.g. use of private cars rather than public transportation), or if they lead to expenditure of valuable foreign exchange on imported consumer goods. Distortion of consumption patterns is likely to be associated with consumer goods industries which devote a high proportion of their expenditure to advertisement. However, mining companies can have an impact if their employees represent a visible and well-defined group which exerts a 'demonstration effect' by practicing consumption patterns of a certain kind.

Finally, external diseconomies may result from the impact of foreign mining investment on domestic income distribution. The creation or worsening of disparities in wealth between different sections of the community can be criticised on various grounds. One is moral, and involves the claim that such disparities are inherently evil. Others are political and economic in nature. For example, if small groups of wage earners become wealthy in comparison to the wage-earning population as a whole, one of two equally undesirable consequences may result. Should general wage levels remain unchanged, the income differential between the privileged group and other wage earners may give rise to economic and political disruption. If the 'demonstration effect' exercised by the wealthy few pushes general wage levels upwards, economic development may be hindered (for example because economically marginal activities are rendered uneconomic). Regional inequalities in income distribution can also create serious political tensions, particularly in newly-independent countries which lack a
strong sense of national identity.

Foreign mining investment may affect domestic income
distribution in a number of ways. First, it may reduce
(increase) returns to domestic capital by pre-empting
(facilitating) its involvement in mining operations which
yield a higher return than alternative investment
opportunities. Second, it may increase (decrease) returns
to labour by influencing wage levels, either directly or
indirectly. Third, it may increase (decrease) disparities
in regional income distribution, depending on the
geographical pattern of its expenditure.

A substantial number of variables are involved in
determining the effect of foreign mining investment on wage
levels and on income distribution generally. The manner in
which they interact in individual host countries is examined
in the case studies, and the impact of foreign mining
projects assessed accordingly.

The political impact

Foreign investment is frequently thought to result in
loss of host government sovereignty, a concept which covers
a number of issues. Foreign investors are believed to be
capable of taking decisions which affect the national welfare
and, in doing so, of ignoring the wishes of host country
governments.26 The decisions involved might relate, for

26 See, for example, L.T. Wells Jr, 'The Multinational
Business Enterprise: What Kind of International
Organisation?', *International Organisation*, Vol. XXV, No. 3,
(Summer 1971), pp. 447-8; and S. Hymer, 'The Efficiency
(Contradictions) of Multinational Corporations', *American
example, to the location of investments, retrenchment
decisions, circumvention of credit restrictions (for
example by transfer pricing so as to accumulate large
surpluses in the country concerned), withdrawal of funds in
times of balance of payments problems, or conclusion of
takeover agreements.

A distinction must be made in this area between the
potential power of foreign investors and their behaviour in
practice. Foreign companies may well refrain from exercising
any power they may have in order to maintain good relations
with the host country over the longer term. In addition,
it is apparent that the potential of various investing
companies in this regard will vary with the nature of their
own institutional frameworks. Where subsidiaries enjoy
considerable autonomy and are linked to the parent company
primarily through use of a common technology or trade name,
little difference may exist between their responsiveness to
host government policies and that of domestic companies.
Where subsidiaries supply components to a productive process
spanning national boundaries, responsiveness may be very low.
Between the two extremes, many variations will occur.
Historically, subsidiaries in the extractive industries have
been very closely controlled by parent companies, reflecting
the need to ensure supplies of high-quality products on a
reliable and punctual basis.

The question of national control over corporate decision-
making has in fact figured very prominently in the case study

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27 This point is discussed in detail by L.T. Wells Jr,
op. cit.
countries, and it is consequently dealt with at various stages of the narrative rather than as a separate issue.

Host government sovereignty is also seen to be threatened where home country governments intervene on behalf of foreign investors or where foreign investors are used as an arm of home government foreign policy. In this latter regard companies operating abroad might be passive (and even reluctant) tools of home government policy, being constrained from acting in certain ways, for example by anti-trust laws or by regulations prohibiting trade with particular countries. Alternatively, they might take positive initiatives on behalf of the home government.

Finally, there is the possibility that foreign investors might subvert political processes in the host county. This issue brings us to an area which can more properly be dealt with in the context of relations between host country governments and foreign investors.

III

This discussion emphasises the fact that policies adopted by host country authorities exert a crucial influence over the impacts which will result from foreign investment. The clearest example of such influence is in the area of economic rent distribution, where control over taxation assigns a central role to government. Taxation policies, in turn, influence the distribution of benefits arising, for example, from transfers of technology or technical skills, and help determine the balance of payments impact of foreign
mining projects. In addition, host country policies in relation to linkage development and provision of infrastructure can be of considerable significance. On the other hand, the effects of mining investment, real or perceived, exert a major impact on government policies, as will become apparent in the case studies. This situation provides the background for the development of relations between foreign investors and host governments (or other entities with influence over the decision-making process), and it is to the analysis of these relations that I now turn.

Much of the existing analytical work dealing with host country-foreign investor relations in mineral industries concentrates on explaining changes in the relative bargaining positions of host countries and foreign investors (frequently within a framework of game theory).\(^{28}\) Raymond Mikesell, for example, has outlined the way in which bargaining power shifts from the foreign investor to the host government as development of a deposit proceeds. In general, the bargaining power of the foreign investor is greatest before a new investment is made and lowest after such an investment is completed and has proved profitable.\(^ {29}\) Host governments, initially faced with

\(^{28}\) See, for example, R.F. Mikesell, *Foreign Investment in the Petroleum and Mineral Industries: Case Studies of Investor-Host Country Relations* [hereafter referred to as *Foreign Investment in the Petroleum and Mineral Industries*], (Johns Hopkins Press, 1971), Ch. 2; R.F. Mikesell, *Foreign Investment in Copper Mining: Case Studies of Mines in Peru and Papua New Guinea* [hereafter referred to as *Foreign Investment in Copper Mining*], (Johns Hopkins Press, Baltimore, 1975), pp. 24-33; R. Vernon, op.cit., Ch. 2.

\(^{29}\) R.F. Mikesell, *Foreign Investment in Copper Mining*, p. 31.
the overwhelming bargaining power of the foreign investor, accept mining agreements which are very favourable to the latter. Once the investment has been made and becomes profitable, however, a shift in bargaining positions takes place. The mining venture has made its commitment, it cannot remove its physical assets (as can, for example, certain kinds of manufacturing concerns), and is therefore unlikely to withdraw while it is allowed even a 'modest' return on its capital. Political pressure mounts on government to utilise its improved bargaining position to increase its share of the (now very apparent) surplus generated by mineral development. It will usually do so by demanding renegotiation of the original agreements. Raymond Vernon has described this phenomenon as the 'obsolescing bargain', and has analysed the manner in which the characteristics of individual metal mining industries and of particular host countries affect the degree to which shifts in bargaining power occur in specific cases.

Mikesell argues that the main problem caused by such developments is one of controlling conflict between the two parties. Conflict is regarded as inevitable, but it can be mitigated to a very large extent, for example by including provisions for renegotiation in the original agreement or by allowing for higher state revenues in the event of project

profitability being unexpectedly high.\(^{32}\) Severe conflict is in fact destructive to both parties, as it may lead to reduction in the overall surplus available for distribution, an outcome which would be in neither of their interests.\(^{33}\) Development of such conflict (or what Mikesell terms 'warfare situations') therefore results from decisions which are irrational on an economic basis, and involve 'a political act usually taken in response to an ideological or other non-economic motivation'.\(^{34}\) The main problem is to discover 'joint maximising rules' which will allow both parties to maximise their returns from mineral development without undermining their basic relationship.\(^{35}\)

T.H. Moran, in a study of foreign investment in the Chilean copper industry and in other publications,\(^{36}\) argues that this approach is inadequate. Moran accepts that important short-term shifts in relative bargaining strengths do take

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\(^{32}\) R.F. Mikesell, *Foreign Investment in Copper Mining*, pp. 32-3.

\(^{33}\) In Mikesell's words, 'the total rent from the production of the resources is not independent of the shares' (*Foreign Investment in ... Mineral Industries*, p. 40). In other words, should a host country government demand too high a share of the rent, total rent is likely to decline as a result of lower investment rates or other reactions on the part of the foreign investor.

\(^{34}\) *Foreign Investment in Copper Mining*, p. 29.

\(^{35}\) *Foreign Investment in ... Mineral Industries*, pp. 43, 49, 51-4.

place in the manner described above. But he claims that a simple bargaining model which outlines such changes and recommends strategies for conflict avoidance and 'joint maximisation' does not allow a satisfactory analysis of relations between foreign investors and host countries. His criticism is based on the contention that such a model ignores the dynamic elements involved in the whole political, economic and technical framework within which bargaining takes place.

Moran identifies three such elements as being particularly important: (1) changes in perceptions of risk and uncertainty over the long term, (2) changes in the monitoring and negotiating skills of host country governments and in their ability to carry out functions performed by the foreign investor, arising from progress along what is described as a 'learning curve', and (3) domestic political considerations resulting from the interplay of local political and interest groups and from changes in domestic perceptions of the role played by foreign investors.

Moran points out that the initial foreign investors expend large amounts of capital with substantial risks of failure before they collect sufficient information to reduce uncertainty substantially (e.g. regarding the structure of production costs, the 'operating climate' in a particular country). In addition, these investors have a monopoly over the capacity to discover and develop mineral deposits. The heavy premium they charge for uncertainty and their exercise of monopoly power lead foreign investors to demand very favourable conditions before

\[37\] Multinational Corporations and the Politics of Dependence, p. 93.
agreeing to commit funds. Host governments are not qualified to gauge the real extent of risk and uncertainty, and therefore must accept the assessment made by the investor and concede his demands. But once initial investments succeed, uncertainty as to the existence of orebodies and as to the technical and economic aspects of their development is greatly reduced. The host government can consequently drive a tougher bargain with subsequent investors, and may well use the leverage thus gained to renegotiate earlier, more generous agreements. Thus changes in bargaining positions which accompany individual project developments are not self-contained, but rather are associated with a cumulative effect which serves to improve the overall bargaining position of the host country.\(^{38}\)

The second element involves the concept of a 'learning curve'.\(^{39}\) A country will initially be lacking in the technical, accounting and economic skills needed to analyse the proposals and, later, the operations of international mining enterprises. In any case, its government will not possess the bargaining skills required to put such expertise to good use. However, the financial success of initial investments provides an incentive to develop capabilities in these areas. Thereafter, the host government can monitor the activities of foreign concerns more closely. In addition, a

\(^{38}\) ibid., pp. 158-62.

\(^{39}\) So in fact does the first: reduction in uncertainty involves a learning process through which the host country accumulates information regarding its own geological and other characteristics. However, here I am following Moran's typology, and he treats the two processes as separate developments. *Multinational Corporations and the Politics of Dependence*, pp. 162-3.
monopoly of relevant skills is no longer enjoyed by the foreign investor. Government can push home the advantages derived from these changes, using the bargaining skills it has developed over time to impose stricter conditions on foreign investors.40

In combination with the reduction of uncertainty mentioned above, such progress along the 'learning curve' represents 'a fundamental evolution in the balance of power between the international investors and the host country', and it is within this 'slow but cumulative shift in the balance of power' that rapid short-term shifts in that balance take place.41

In this scheme of things, conflict is not a problem to be avoided or mitigated, but rather reflects the struggle by a host country to improve its bargaining position and to utilise the advances made in this area. Neither do attempts to gain control of mining industries reflect 'irrational' decisions taken for non-economic reasons. 'There is in fact a rational pattern of technology transfer, learning and interest articulation beneath the apparent "waves" and "emotions" of economic nationalism' and the action of economic nationalists represent 'a systematic drive to take over functions, gain expertise, acquire knowledge that were previously the monopoly of the foreign corporations'.42 The rational strategy for the economic nationalist is to

40 ibid., pp. 163-6.
41 ibid., pp.8, 154.
42 ibid., pp. 157, 222.
take as full advantage of the foreign corporations as he can while they are within his range, and not to push them out until he is as close as possible to being able to duplicate or surpass their feats on the international as well as the national scene.

But pushed out 'they' will be: 'such foreign corporations in the long run, to paraphrase Keynes, are all dead'.

Moran argues that by examining the degree of uncertainty prevailing and the extent of progress along the 'learning curve', one can gauge 'the array of options open to policymakers within the horizon of domestic knowledge and experience at each stage of relations with the foreign investors, and to measure domestic performance against these options'. In fact, there are many instances in which available options are clearly not realised. These are explained by pointing out that policy is not formulated by a monolithic entitled 'host country', but rather is 'the outcome of the struggle of diverse groups, of successive administrations and their adversaries, to maximise their own conceptions of the national interest through manipulation of [mineral] policy'.

Thus the third dynamic element is introduced. Political interactions of this type explain 'deviations' from the behaviour one would expect from a notional entity (the 'host country') acting to maximise the potential returns arising from its 'objective' bargaining position.

At certain stages, domestic political and interest groups with influence over the decision-making process will see it in their interest to make economic or political 'pay-offs' to

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43 ibid., pp. 157, 222, 224.
44 ibid., p. 169.
foreign investors by not exercising the state's full bargaining power. Moran explains in detail the reasons for occurrences of this type at various times in the history of the Chilean copper industry.\(^45\) He defines 'exploitation' as the extent to which a host country suffers financial loss as a result of not exercising its full bargaining power. An 'asymmetry of power per se' between host countries and foreign investors is not viewed as a basis for exploitation, but rather only 'the refusal of domestic elites to act in the national interest to the extent that they have the power to do so'. There is no 'exploitation' without complicity on the part of domestic elites.\(^46\)

The concept of elite complicity is of course found in much of the literature on foreign investment in developing countries, and it is through such complicity that foreign investors are usually thought to subvert host country political processes. The elite's willingness to sacrifice the national interest is variously attributed to outright bribery by foreign investors,\(^47\) to its belief that foreign support is essential for maintenance of a state system within which it is the primary beneficiary,\(^48\) or to the desire of a

\(^{45}\) ibid., ch. 6, *The Theory of Exploitation* ..., pp. 171-7.

\(^{46}\) *Multinational Corporations and the Politics of Dependence*, p. 156.


\(^{48}\) See, for example, A.G. Frank, *Capitalism and Underdevelopment in Latin America*, pp. 115-9.
certain section of the elite to enlist foreign help in maintaining its political dominance. Moran favours this last explanation, but stresses that there is no permanent mutual interest between local political groups and foreign investors in 'exploiting' the host country. (Theories of 'neo-imperialism' which posit such an interest are regarded as static and incapable of explaining change in foreign investor/host country relations. Such theories pick one point in those relations and wrongly assign permanence to that situation). Rather elite complicity is viewed as a temporary departure from a long-term trend which is leading to greater domestic returns from, and control over, mineral industries. Pursuit of this trend is not the preserve of any one political or ideological grouping. Moran points out that the Chilean Conservative Party, which was at the centre of the major 'pay-offs' to foreign investors, eventually perceived its interests as different to those of US mining companies. It joined with other political parties of the centre and left in 'squeezing' those companies, and eventually in their nationalisation.

Moran seems to assume that such an outcome was inevitable. Political demands for greater domestic returns from, and control over, the copper industry, provided Chilean leaders with the impetus for progress along the 'learning curve'. Such progress, combined with reduction of uncertainty, put


50 ibid., pp.156, 197-215.
Chile in a stronger bargaining position. It also reduced elite perceptions of the cost of dispensing with foreign investment and increased perceptions of the benefits to be gained from doing so. Elites of all ideological hues therefore inevitably bowed to the political imperatives, and took action to improve Chile's position. According to Moran, this type of progression was, or is, not confined to Chile or to the copper industry, but occurs in other countries and in the oil, ferrous and non-ferrous metals industries.  

Thus Moran both offers an explanation for empirically-observed patterns of behaviour and predicts that host country-foreign investor relations will follow an inevitably conflictual course, resulting in the eventual withdrawal of foreign investment. The case studies will provide empirical evidence on which to judge the validity of his propositions, but at this stage a number of general points can be made.

Three relate to the concept of progress along a 'learning curve'. First it should be remembered that 'a systematic drive to take over functions, gain expertise and acquire knowledge' may impose substantial costs on the host country, absorbing human and financial resources which have alternative uses. Moran assumes that the benefits of following such a course will outweigh the costs, but this appears to be a matter for investigation rather than a justifiable a priori assumption. Second, he does not consider the possibility that a host country may exaggerate its ability to 'duplicate or surpass' the feats of foreign investors. It is possible that

51 ibid., pp.164-8.
host country authorities might overexercise, as well as underexercise, their bargaining power. They may miscalculate on their ability to maintain production efficiently after the foreign investor has been 'pushed out', and his departure may consequently impose considerable costs on the host country. Third, it is by no means self-evident that a host country will inevitably move along a learning curve even if it is in its interests to do so. There are a number of aspects to this last question, the first of which concerns Moran's contention that elite complicity will necessarily be temporary.

It is not obvious that this will necessarily be the case. First, elites may have a continuing interest in engaging in complicity; as Moran himself points out, some very specific factors combined to persuade Chile's conservative elites to abandon their alliance with US multinational mining companies, and it cannot be assumed that similar circumstances will apply in other countries.

Second, Moran assumes operation of democratic structures in the host country. There is in fact no guarantee that domestic elites will respond to public pressures for termination of exploitative relationships. Writing in 1974, Moran stated that 'no military dictatorship, no matter how suppressive of democratic rights, can reverse the movement toward Chilean control of basic natural resources for long'. The validity of this statement may well rest on the definition of 'for long', but at a time when private multinational

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52 ibid., p. 248.
mining corporations are again being assigned a major role in the development of Chile's mineral resources its validity can certainly not be taken for granted.\(^{53}\)

Third, even where democratic structures do exist, pressure for termination of complicity may not materialise. Foreign investors may merge into the local landscape over time, and this may serve to reduce political pressure against elite cooperation. In addition, politicians may not have a monopoly over the ability to grant concessions. These may also result from bureaucratic processes which are secret in nature, and consequently may not attract public attention (for instance interpretation of tax legislation by the enforcing authority). Finally, it is possible that a mining industry, though significant in national economic terms, may not be prominent in public consciousness, and for this reason also complicity may not be detected.

Neither is it apparent that the granting of concessions to foreign investors or failure to exercise bargaining power must involve complicity. Political actors may inadvertently cause outcomes which favour foreign investors, for example if bureaucratic or political rivalries weaken a minerals department or other agency responsible for monitoring corporate activity or formulating mineral policy. It would be incorrect to say that complicity (which implies an element of deliberateness) occurs in such cases, and it should be noted that public pressure for a change in the actor's behaviour might not materialise, as no clear link might be perceived.

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between that behaviour and the granting of the concession.

In addition, a host government's ability to take advantage of improvements in its bargaining power may be constrained in important ways by political and ideological norms held by its constituents. For instance, a popularly-held belief in the 'sanctity' of private property may render unacceptable certain policy initiatives towards foreign investors.

Another issue involves the nature of the concession granted to foreign investors. Moran is concerned with the support of domestic groups for taxation and pricing policies which represent concessions to foreign investors, concessions which can of course be withdrawn almost immediately. If, on the other hand, the concession involves a reduction in host country bargaining power through dissipation of expertise, it may take a long time to reverse it. In other words, in addition to the possibility that a country will not utilise the bargaining potential presented by progress along the learning curve, there is also the possibility that it will, so to speak, slip back along that curve.

This discussion raises a question in relation to Moran's concept of 'exploitation'. In his view, this results solely from the deliberate actions of domestic political groups. But there seems no a priori reason to accept Moran's statement.

54 Technical and professional staff with the necessary experience are hard to find and, as they represent a relatively small group among whom communication is at a high level, adverse comments regarding a particular country spread quickly and can retard attempts to recruit replacement personnel.
that 'asymmetry of power per se between host countries and foreign investors [is not] a basis for "exploitation"'. Whatever the cause of an asymmetry of power (complicity, adherence to political norms, occurrence of 'pay-offs' elsewhere in the political system), if a foreign investor takes advantage of its existence he is exploiting that situation. This statement is descriptive, whereas Moran's concept of exploitation presumably has a prescriptive element in that complicity by domestic elites infers politically immoral behaviour on their part. It is descriptive because international mining companies will by their nature take advantage of a situation which enables them to increase profits and/or control over whatever time-period they employ, and one cannot rationally expect them to behave otherwise. But it is an important statement, in that identification of 'exploitation' with complicity can result in failure to recognise the relevance of other factors crucial to foreign investor/host country relations.

Two other general points arise. First, given that political norms favourable to foreign investors may retain their force over long periods of time, given that the actions of domestic political groups may not be linked in the public mind with the concessions which those actions give rise to, and given that it may be difficult to reverse certain concessions once they are granted, there seems no apparent reason why exploitative relationships between host countries and foreign investors should not continue on a basis which is, to all intents and purposes, permanent. This situation may be reflected in a failure either to overcome host country
ignorance regarding mineral industries or foreign investor behaviour, or to take advantage of improvements in bargaining potential. To state such a possibility does not involve acceptance of a static 'neo-colonialist' viewpoint; it simply accepts that change in host country-foreign investor relations may take place to varying degrees and in different directions in different situations.

Second, it is not obviously true that a host country's failure to progress along a learning curve must imply a failure to maximise returns from foreign-financed mineral development. The host country may reach a point on the curve which allows it to devise a system of rules governing foreign investment so that the difference between the benefits it currently receives and those which could be obtained by further progress along the curve are less than the costs of making that progress. If those rules are permanent and generally applicable, yet flexible enough to take account of unexpected outcomes (and particularly if the taxation system reduces uncertainty for the foreign investor and also allows the host country to capture a high proportion of unexpected profits), then even limited conflict of the type envisaged by Mikesell may be avoided. In other words, the host country may be able to negate the effects of short-term shifts in bargaining power usually associated with major resource projects.

This of course assumes that the interests of the two parties are fundamentally reconcilable. Moran clearly assumes the opposite is the case, an assumption stated more
explicitly in Norman Girvan's studies of foreign mining investment in South America and the Caribbean. Girvan believes that such investment results in a clash of two economic systems with totally different objectives and needs ... on the one hand the vertically-integrated multinational corporations ... on the other hand the national economy ... conflict between the corporate and national economies over the use of the same resource is therefore inherent and inevitable.57

Much more is involved here than a dispute over the division of economic rents, according to Girvan. The production and investment decisions of the foreign subsidiary will be determined by the global profit-maximising strategy of the parent company. The dictates of this strategy may coincide with the host country's interests at certain stages, but sooner or later shifts in relative production and other costs or the parent company's diversification policies will result in production and investment decisions inimical to the host country's interests.58 Further, the host country will want to maximise linkages from mineral development by maximising employment, use of domestic sources of goods and services, and domestic processing of minerals. The foreign subsidiary will wish to minimise labour costs and will apply technology developed in its home country to do so.59 It will tend to purchase goods inevitability of fundamental conflict between foreign investor and host country.

56 Multinational Corporations and Dependent Underdevelopment ...; Copper in Chile: A Study in Conflict between Corporate and National Economy, (Institute of Social and Economic Research, University of the West Indies, 1972) [hereafter referred to as Copper in Chile].

57 Copper in Chile, p. 3.

58 ibid., pp. 61-2; Multinational Corporations and Dependent Underdevelopment ..., p. 504.

59 Copper in Chile, p. 16.
and services from other subsidiaries within the group or through centralised purchasing agencies located in the home country, militating against development of domestic linkages. For various reasons, processing will also be largely carried on outside the host country. 60

Even if host country governments capture a high proportion of economic rents, Girvan believes that attempts to foster growth in agriculture and manufacturing through their expenditure are unlikely to succeed because of the impact of foreign mining projects on the national economy. First, mining creates external diseconomies in relation to other sectors, for example by absorbing domestic resources and by raising wage rates. Second, the development of linkages from mining may well offer the best prospects for growth in other sectors, but of course these linkages do not materialise. Third, mineral development influences consumption patterns, encouraging consumption of expensive consumer durables which are difficult to produce locally, but which can easily be imported because of the abundant foreign exchange provided by mining itself. 61

In Girvan's view, the only way in which a host country can avoid this situation is to secure total control over its mining industry, eliminating foreign investment and foreign influence altogether. 62

60 ibid., p. 50; Multinational Corporations and Dependent Underdevelopment ..., pp. 513-5.
61 Multinational Corporations and Dependent Underdevelopment ..., pp. 520-3.
62 ibid., p. 526; Copper in Chile, pp. 61-2.
The concern of authors such as Raymond Mikesell with 'joint-maximising strategies' reflects a belief that drastic action of this kind is not necessary in defence of a host country's interests, and indeed will have positively harmful effects. Though their interests will certainly clash on occasion, a fundamental conflict of interest does not exist between the foreign investor and the host country; both can be better off than in a situation in which foreign investment does not occur. Underlying this approach is the belief that the economic and other effects of foreign mining investment are generally favourable, or that appropriate host government policies can render them favourable.63

Thus we are faced with a number of models which posit certain conclusions regarding both the impact of foreign investment and the nature of the foreign investor-host country relationship. Two assume that impact to be unavoidably adverse; a fundamental conflict of interest consequently exists between foreign investor and host country. One model predicts that this conflict will inevitably lead to withdrawal of foreign investment, the other that exploitative relationships may persist for extended periods of time. Two other models assume that the interests of both parties are fundamentally compatible. One predicts that short-term shifts in bargaining power will result in limited and temporary conflict, the other suggests that such conflict can be avoided.

63 R.F. Mikesell, Foreign Investment in ... Mineral Industries, pp. 24-5.
It is of course very unlikely that a limited number of case studies will conclusively establish the validity or otherwise of general propositions of this kind. However, they may well allow judgements as to individual aspects of each, and permit some conclusions regarding their comparative usefulness in analysing and explaining empirically-observed phenomena. It is against this background that I turn to an examination of the role of foreign investment in mineral development in the case study countries.
Chapter Two

FOREIGN INVESTMENT AND THE DEVELOPMENT OF THE
IRISH NON-FERROUS MINING INDUSTRY, 1956-1977

The Republic of Ireland is a country of some 26,000 square miles with a population of approximately 3.1 million. The twenty-six counties which comprise the Republic became a separate political entity in 1922. At Independence, the Irish Free State, as it was then known, was a predominantly agricultural country. This situation resulted in large measure from the absence of local supplies of key minerals (especially coal and iron ore), from the country's colonial status as a specialised agricultural producer for the British market, and from the exclusion of the most heavily-industrialised section of Ireland (the North East) from the Irish Free State. Over the next fifty years, its occupational profile changed considerably, so that by 1974 22.6 per cent of the population were engaged in agriculture and 29.1 per cent in industry, versus 50 per cent and 12.5 per cent respectively in 1922. This change was heavily concentrated over the period 1946-74 and was associated with a reorientation of industrial development strategy towards encouragement of export-oriented foreign-financed projects.

1 The official title of the twenty-six counties was changed in 1949 to the Republic of Ireland or Eire.

2 During these years, employment in agriculture declined by nearly 50 per cent, that in industry increased by 65 per cent.
Since 1922, Ireland has been governed under a Westminster-type parliamentary system, and its Dail (Parliament) has been dominated by one or other of the two largest political parties, Fianna Fail and Fine Gael. In general, economic policy has been oriented towards encouragement of private initiative, though government action (for example, generation of electricity from native fuel resources) has been taken where such initiative was lacking.

As mentioned above, Ireland has not enjoyed an abundance of mineral wealth in the past. Over the last two decades, this situation has changed dramatically. By 1978, the Republic of Ireland had become the world's fifth largest zinc producer, its third largest barytes producer, and a significant producer of lead and silver. This chapter explains why and how this change came about, and examines the economic and political impact of foreign-financed mineral development in Ireland.

The most significant mineral deposit discovered to date, the Navan zinc/lead orebody, was not brought into production until 1977, and consequently its impact cannot be assessed with that of the other mines. However the story of its development over the period 1970-77, which is the subject of Chapter Three, sheds considerable light on the nature of host country-foreign investor relations.

Historical introduction

During the period 1820-80, copper, lead and zinc mining occurred on a large scale in Ireland, but by the late 1870s
the industry was in decline, and by 1885 mining of non-ferrous metals had almost entirely ceased. After Independence, and particularly after the coming to office of a Fianna Fail government in 1932, interest in the development of indigenous mineral resources revived. However, various factors militated against pursuit of a more vigorous exploration campaign in the years 1922 to 1940. Uncertainty existed over the ownership of minerals in many areas, a situation which was only remedied by the introduction of the Mines and Minerals Development Act in 1940. The absence of currently operating mines added to this uncertainty, reducing Ireland's attractiveness to private mining concerns. The Irish government either could not afford to, or did not wish to, become directly involved in exploration on a large scale. Speaking in 1936, the then Minister for Industry and Commerce, Mr Lemass, made his government's views quite clear:

> The development of mineral resources is a matter primarily for private enterprise and I am not prepared under present circumstances to undertake the acquisition and exploitation on behalf of the State of mines ...

As private enterprise was not enthusiastic in pursuing its allocated task, significant mineral development was unlikely to occur.

Raw material shortages caused by the outbreak of war in 1939 led to a change in government policy. As part of a drive

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3 The principle causes of the decline were increased working costs arising from exhaustion of richer, more accessible ores, combined with declining prices caused by the discovery of abundant sources of supply elsewhere in the world.

4 *Dail Debates*, 19 February 1936.
to fully utilise indigenous resources, a state mining company, the Minerals Exploration and Development Company Limited, was established and given responsibility for the development of metallic mineral reserves. During the period 1941 to 1945, the Company investigated a number of deposits, concentrating its efforts on the Avoca area of Co. Wicklow. It continued its prospecting activity after 1945 under its new short title, Mianrai Teoranta, and in 1947 commenced detailed exploration near Avoca. By 1955, the Company claimed the existence of some 13\(\frac{1}{2}\) million tons of ore, with a copper content over one per cent. Mianrai Teoranta was not allocated the task of developing the deposit; negotiations were undertaken with Consolidated Mogul Mines of Canada, and in 1956 a mining lease was granted to Mogul's wholly-owned subsidiary, St. Patrick's Copper Mines Limited. The government's attitude was that state involvement in industry was only justified where private enterprise failed to show any interest; private interests were willing to develop the Avoca deposits, and consequently there was no need for further involvement by Mianrai Teoranta.

The Avoca development 1956-1962

St. Patrick's Copper Mines Limited was granted a lease to mine the Avoca deposits on the following terms. The Company

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5 The Company's name was changed in 1945 to Comhlucht Lorgtha agus Forbortha, Mianrai, Teoranta.

6 See, for example, the statements by government spokesmen, \textit{Dail Debates}, 8, 9, February 1956.
was to spend stipulated amounts on exploration and development of the area; if the results warranted commercial development, St. Patrick's would construct a concentrator and other essential plant at a cost of approximately £2\(\frac{1}{4}\) million. It undertook to employ 500 men, and to sell the products of the mine at the best price obtainable (defined by an elaborate formula included in the lease). The Company would reimburse the State for Mianrai Teoranta's exploration expenditure.

The mining lease was, therefore, a detailed and quite complex document designed (at least in theory) to protect the State's interests. It took for granted, of course, that Mogul possessed the technical and financial resources to meet its commitments and to exploit the Avoca deposits efficiently. During the Dail debate on the relevant legislation, government spokesmen made it clear that Mogul's possession of these assets was the main reason why its involvement had been sought.\(^7\)

The taxes to be borne by St. Patrick's were not heavy. It would pay a royalty of 4 per cent on profits up to £350,000, rising to 9 per cent on profits in excess of £1,750,000. In February 1956, taxation legislation was introduced which had an important bearing for the Company. The Finance (Profits of Certain Mines) (Temporary Relief from Taxation) Bill proposed to grant total exemption from taxation for a period of four years, and 50 per cent exemption for a further four years, to Irish registered mining companies commencing operations within three years of the enactment of the Bill. It seems clear that this legislation was

\(^7\) Dail Debates, 9 February 1956.
introduced at Mogul's insistence, despite claims to the contrary by the government of the day.  

During the Dail debate on the Bill, its provisions were the subject of harsh criticism by the opposition Fianna Fail party. The party's spokesman for Industry and Commerce, Mr Lemass, later to become Taoiseach (Prime Minister), claimed that the Bill was 'designed to encourage raids upon Irish mineral resources by foreign financial interests with the idea of getting as much profit out of their operations as quickly as possible'. He estimated that Mogul would make a net profit of approximately £13 million over the life of the mine, while Ireland's financial returns would be negligible. Other prominent Fianna Fail members, including the future Irish President, Mr De Valera, were equally critical, but despite their opposition the Bill was passed without major amendment.

Mogul carried out its investigations, decided to proceed with the project, and by late 1958 had installed the concentrator and other equipment. During the development stage, St. Patrick's fully utilised the £1.76 million raised on its behalf by Mogul in Canada. Further funds were needed to complete the project, but Mogul was unable to obtain these

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8 Interviews with retired officials, Department of Industry and Commerce and Geological Survey Office, Dublin, 8, 22 November 1978. [Unless otherwise stated, all interviews were held in Dublin]. The fact that Mogul's operation was the only one which could conceivably reach the production stage within the time limit set by the Bill lends weight to this viewpoint. By extending this time limit to seven years in 1959, the government gave the measure more general applicability.

9 Dail Debates, 8, 9 February 1956.
in Canada, and it requested the Irish government to guarantee a loan for the amount required. The (now Fianna Fail) government agreed, having received a favourable assessment of the project's prospects from a reputable mining investment house. A loan of £1,368,000 was obtained from the Irish Life Assurance Company.

Soon after production commenced, St. Patrick's ran into difficulties. It had elected to mine the sub-surface residue of ore left around 19th century workings, rather than the previous unworked areas delineated by Mianrai Teoranta. According to the Chief Geologist of the company now operating the Avoca mine, this was 'a fatal decision': cave-ins from old workings occurred at a number of points, blocking access to sections of developed orebody and leading to serious dilution of the ore mined (i.e. reduction in grade due to mixing of wast material with the ore). Combined with depressed copper prices, the lower grades and reduced production resulting from these cave-ins caused serious financial difficulties for St. Patrick's. The Company arranged a second State-guaranteed loan of £550,000, and also decided to attempt more selective mining of higher grade areas. Expectations as to the richness of these areas were not however fulfilled, and dilution of the ore continued. Further development work was then undertaken to allow exploitation of the South Lode which contained 9 million tons grading 1 per cent copper, on Mianrai Teoranta's estimation. The Irish

10 *Dail Debates*, 21 February 1962.

11 Interview with Chief Geologist, Avoca Mines Ltd., Avoca, 9 November 1978.
government contributed a grant of £240,000 towards this work, on Mogul's assurance that it would permit production of ore of an economic copper content.

This assurance was apparently based on a projected rise in world copper prices, which failed to materialise. Mogul did not have, or was unwilling to commit, the resources to tide St. Patrick's over an extended period of low copper prices. St. Patrick's went into receivership in May 1962, and, despite the injection of another £250,000 by the Irish government over the following months, operations had ceased by September 1962. St. Patrick's defaulted on its loans, which became the liability of the Irish government.

The Avoca project involved a significant mobilization of domestic capital by foreign investors. £2.4 million was invested from local sources, compared to Mogul's investment of £1.76 million. The failure of this first major venture in which domestic capital was involved was to have important implications. (See p.62 below).

It is ironic that its failure resulted largely from the absence of precisely those assets which supposedly justified the choice of Mogul as mine developer. Mogul did not apply the financial resources needed to render the project viable, and it made a number of technical decisions which were of questionable validity. In addition to the decision to mine alongside the abandoned 19th century workings, the company

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12 It was probably co-incidental that Mogul terminated operations three weeks before its exemption under the 1956 tax legislation was due to expire. It stood little prospect of making significant profits at that stage, and would hardly have been influenced by the possible application of taxation to hypothetical profits.
apparently failed to carry out sufficient development work before production commenced, and also attempted to make good production losses due to cave-ins by using indiscriminate mining techniques which merely worsened the dilution problem.\textsuperscript{13}

The political repercussions of the Avoca failure for the Fianna Fail government were immediate and serious. Mr Lemass, now Taoiseach, and Mr DeValera, now President, were publicly ridiculed for their earlier claims concerning the project's likely profitability.\textsuperscript{14} More serious were the accusations that government support for St. Patrick's Copper Mines Limited represented a wasteful use of public monies.\textsuperscript{15} It mattered little that the Company's failure was primarily due to the vagaries of the world copper market\textsuperscript{16} and to the technical and investment decisions made by a foreign corporation. Future Irish governments would be very reluctant to permit state financing of mineral development, and the Fianna Fail politicians who were to dominate those governments would not be disposed to believing that mining companies operating in Ireland were enjoying excessive profits.

The Avoca development has been dealt with in detail because of its significance for the formulation of government policy towards the mining industry during the following decade.

\textsuperscript{13} Interview with retired official, Geological Survey Office, 8 November 1978; \textit{Dail Debates}, 25, 26 July 1962.

\textsuperscript{14} \textit{Dail Debates}, 21 February, 25 July 1962.

\textsuperscript{15} \textit{Dail Debates}, 25 July 1962.

\textsuperscript{16} When the Avoca project was initiated, the London Metal Exchange copper price stood at £430 per ton; on the day production commenced, it stood at £186 per ton.
The period 1956 to 1962 saw an end to direct state involvement in the mining industry, the initiation of a policy of affording financial incentive to mining companies, a disastrous outcome to the State's first major financial involvement in the mining industry, and an embarrassing experience for the Fianna Fail politicians who were to rule Ireland until 1973. As will become apparent, these events were to cast a very long shadow indeed.

The growth of mineral exploration and development, 1958-1968

An important side effect of the Avoca development was that it brought Ireland to the attention of a number of mainly Canadian-based mining companies. In the years after 1956, exploration activity increased. Initially, attention was focused on locations where mining had previously taken place, but towards the end of the 1950s a number of companies started to apply geochemical techniques which allowed prospecting of 'virgin' areas. One of these was Irish Base Metals Limited (IBM), a wholly-owned subsidiary of a Canadian-based company, Northgate Exploration Ltd. Northgate had been set up in 1958 by three Irishmen who had emigrated to Canada in the late 1940s, Pat Hughes, Michael McCarthy and Matt Gilroy, and had there gained experience of the mining industry. Capital was raised by selling some 80 per cent of Northgate's stock to Canadian investors, while the three founders of the Company themselves retained significant shareholdings.

17 As is explained on page 59, this method involved extensive soil and water sampling which provided sufficient information to allow pin-pointing of likely targets for detailed exploration.
In September 1961 IBM undertook geochemical soil and water sampling in the Tynagh area of Co. Galway. The results were promising, and a drilling programme was initiated. This revealed the existence of substantial reserves of lead ore, which also contained significant amounts of silver and copper.  

From 1962 to 1964, preparations were undertaken for the development of the Tynagh deposit. The Minister for Industry and Commerce issued an order, under the 1940 Minerals Development Act, taking possession on behalf of the State of all minerals in private ownership or concerning which ownership was doubtful, to ensure the orderly working of the deposit and to guard against obstructionist behaviour by private individuals. In December 1962 IBM was granted a 21-year mining lease, which provided for royalty payments on a graduated scale to a maximum of 9 per cent on profits in excess of £1.75 million per annum.

As the provisions of the 1956 taxation legislation had been extended by the 1959 Finance Act, the operating company would be exempt from corporation and income tax for a period of four years, and enjoy 50 per cent exemption for a further four. Major development work commenced at Tynagh in 1964, and by late 1965 the mine was in operation.

The Tynagh discovery brought Ireland to the attention of the international mining industry, and led to a spectacular

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18 Reserves amenable to opencast mining totalled 7 million tons grading on average 9 per cent lead and 3 oz. silver per ton. Secondary ore zones, which would be mined by underground methods, were discovered at greater depth, but ore reserve estimates were not compiled at this stage.

increase in exploration. In 1962 Mogul Mines Limited, having ended its involvement in Avoca, took over the property of the Silvermines Lead and Zinc Company in Co. Tipperary, an area with a long history of mining activity. In 1963 Mogul located two ore zones at the tip of a fault whose existence had long been known, but beneath 'green field' areas where no mining had previously taken place. Once again, the application of modern exploration techniques had been crucial. Production commenced in May 1968, and Silvermines became Europe's largest underground producer of lead and zinc.

In July 1966, Gortrum Mines Limited decided to proceed with development of a copper prospect at Gortrum, Co. Tipperary, and the mine was in production by late 1967. In early 1971 the Avoca copper mine was reopened by Avoca Mines Limited, a subsidiary of a Canadian company, Discovery Mines.

Significant reserves of non-metallic minerals were also discovered during this period. A large baryte-mining operation was established near the Silvermines prospect by Dresser Industries of the United States, and by 1972 Ireland had become the world's third largest producer of the mineral. In 1969 a subsidiary of the Pfizer Corporation commenced mining of high-quality dolomite (a source of natural magnesite) at Bennetsbridge, Co. Kilkenny.

Two factors were particularly important in facilitating this dramatic increase in exploration and mining activity. The first was the existence of workable, efficient legislation relating to mineral ownership. A high proportion of mineral rights was owned by the State, while the Minerals Development Act 1940 empowered the Minister for Industry and Commerce to
compulsorily acquire any rights still in private hands, should this prove necessary. This meant that a company could acquire directly from the Government the right to explore a given area with the assurances that it can get a mining lease ... and that a present owner could not block a broad development.

in contrast to the situation in Britain, for example, where a company might have to deal with a large landowner, several small farmers, numerous lots owned by retired men of their widows, perhaps a land developer and the estate of someone who emigrated to Australia thirty years before and died intestate.  

Under the British system a company might spend two years in obtaining satisfactory title to a particular area. In Ireland, this would take literally a few days, and in addition the company would know that, if its interest was justified, problems would not arise in obtaining permission to proceed with development.

The availability of modern exploration techniques, particularly geochemical ones, was equally crucial. Geochemical testing, or the analysis of soil and water samples for traces of metal, permitted collection of data over large areas devoid of surface indications of mineralisation, and thus facilitated the pin-pointing of promising locations for further investigation. This technique was crucial to the discovery of the Tynagh deposit, a discovery which provided the fundamental prerequisite for a vigorous exploration programme, i.e. favourably altered perceptions as to the geological likelihood of discovering a deposit in Ireland.

Another important factor was the 1956 taxation legislation, as amended in 1959. While the financial inducements offered by this legislation were not as significant as the factors discussed above, they did have a triggering effect. They achieved publicity in international mining circles, and offered the prospect of a valuable concession to any company fortunate enough to discover a commercially viable deposit. Such concessions would have had little effect, however, had mining companies felt that the possibility of discovering worthwhile deposits was remote, or that problems concerning land or mineral ownership would have made it difficult or impossible to develop deposits which were found. This legislation was also important in that it expressed an attitude on the part of the Irish government—a welcoming attitude, a determination to facilitate foreign mining companies in exploring for and developing minerals in Ireland.

For these reasons, Ireland became an attractive location for mining investment. The companies which became involved in mineral development were predominantly foreign owned and financed, and the question arises as to why Irish private

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21 The 1959 amendment gave general applicability to the 1956 concessions by extending the time limit for commencement of production to 7 years.

22 Eighty per cent of the Northgate group's shares were held by individuals or groups resident outside Ireland, and all of Northgate's expenditure on exploration and development was financed from abroad. Mogul of Ireland was 75 per cent owned by its Canadian parent, while the remaining 25 per cent was held by a company with substantial British shareholding. The second Avoca development was almost wholly Canadian owned, while both it and Mogul were entirely financed by foreign funds. The baryte project at Silvermines and the dolomite development at Bennetsbridge were 100 per cent owned and financed by US companies.
enterprise did not play a greater role. It was certainly not denied the opportunity. Local investors may not have been given the chance to participate in projects financed by wholly-owned subsidiaries of vertically integrated multinational corporations (such as Bennetsbridge), but they were given opportunities for involvement elsewhere, and at least one company (Northgate) made a deliberate attempt to mobilise domestic capital.

Two factors seem to have been of crucial importance—scarcity of risk capital and shortage of entrepreneurial and managerial skills. Irish capital has long fought shy of areas where the level of risk seemed high. In the 1820s, for example, local investors failed to finance the development of new banks which, by default, were established by British capital. Once these banks began to pay large dividends, Irish interests bought out the British shareholders. As opportunities for profitable low-risk investment in Ireland were limited, large amounts of capital flowed overseas into railway and colonial government stocks, and Ireland was a net exporter of capital for much of the 19th and 20th centuries.

This pattern of risk avoidance and investment in low-risk outlets abroad continued into the 20th century, and in the

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23 Share issues made by mining companies in Ireland were frequently undersubscribed, despite the fact that the highest-risk stage of mineral development (i.e., exploration) had already been successfully undertaken.

24 According to a Northgate official the Company attempted to raise loan finance for the Tynagh development from both institutional and private sources in Ireland, without success. Interview, 1 November 1978. Northgate did in fact raise some equity capital in Ireland. See below, p. 98.
1950s and 1960s Ireland still suffered from a shortage of private risk capital. In fact during these years there was a scarcity of private capital in general, partly as a result of a low savings ration, partly in consequence of the continued capital outflow. The limited availability of private capital is illustrated by the fact that of the total new capital of £376 million raised by public issue between 1951 and 1965, only £36 million was raised by private industrial and commercial concerns. The remaining £340 million was subscribed to central and local government authorities and to State companies. Meanwhile Irish private investment abroad was of such magnitude that over two years, 1964 and 1965, the return on that investment totalled £83 million. Irish investors still preferred low risk outlets, domestic or external, and as a result funds available to risk-taking private enterprise in Ireland were severely limited.

And it is very clear that mining was perceived as a high risk area. The predominant belief that Ireland possessed few minerals, the high cost of exploration, and the apparent danger of failure at the development stage (illustrated by the experience of St. Patrick's Copper Mines Limited) lay behind this perception. The extent of caution regarding mining investment is evident from the fact that as late as 1976 share offers by resource companies in Ireland were still being

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25 In the period 1950-55 current savings as a proportion of national income were 9.5 per cent; in the Netherlands, for example, they were 21 per cent, in Norway 19 per cent, and in Denmark 14 per cent. J. Meenan, *The Irish Economy since 1922*, (Liverpool University Press, 1970), p. 63.

26 ibid., pp. 86-7.
undersubscribed,\textsuperscript{27} despite the fact that two major mineral discoveries (Tynagh and Silvermines) had by then been profitably exploited.

The Irish economy has also suffered from a lack of the entrepreneurial and managerial skills so essential for successful initiatives in the mining field. Quantification of this problem is not possible, but many commentators have noted its importance.\textsuperscript{28} The outcome of a weak tradition in commercial and industrial activity and of the small-scale family-based nature of what activity did occur, this scarcity of human resources was worsened by the constant 'brain drain' resulting from heavy emigration.

Thus the field was left to foreign investors, and it seems certain that had they not found Ireland an attractive investment location, mineral development would not have occurred in the 1960s.

The twenty-year tax exemption

In 1967 the Fianna Fail government introduced a twenty-year tax exemption for foreign mining companies operating in Ireland. This exemption, announced in the Budget Address on 11 April, replaced the existing provisions which allowed four years of total exemption and a further four years exemption on 50 per cent of profits. As none of the mines then known to exist had a life expectancy of more than twenty years, the

\textsuperscript{27} See for example, reports of undersubscribed share issues in \textit{The Irish Press}, 26 June 1976.

Irish government was effectively denying itself the possibility of obtaining significant revenue from the mining industry.29

By 1967, the extent of uncertainty associated with mineral development in Ireland had diminished greatly. Five major mineral deposits had been discovered during the previous decade (Tynagh, two deposits at Silvermines, Gortrum, and Bennetsbridge) and Tynagh and the baryte operation at Silvermines were already operating profitably. Considerably more information was available concerning geology and operating conditions in Ireland than had been the case a decade previously. Ireland had also progressed along a 'learning curve' to some extent, in that members of the Department of Industry and Commerce and of the Geological Survey Office were developing expertise in relevant areas. These changes might be expected to have placed the Irish government in a stronger bargaining position, allowing it to impose more stringent terms on foreign mining concerns. It did the opposite, introducing terms very much more generous than those which had previously applied. What explains this action?

When announcing the government's decision in his Budget speech, the Minister for Finance, Mr Haughey, gave little indication of what the answer might be. He stated:

I am told that a great future expansion in exploration and development is possible and that additional tax incentives can generate a large volume of outside investment ... Many different allowances and incentives have been suggested

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29 Some revenue would continue to accrue in the form of royalties, but royalty rates were modest, and royalties were only applicable to minerals under State control.
but, instead of bringing in rather complicated new provisions, I have come down in favour of the simple decision to substitute for the existing reliefs a twenty-year period of complete exemption.

Mr Haugney's justification of the measure consisted in the claim, therefore, that the concession would lead to greater foreign investment in the industry and that it was simple in nature. The first argument might have held some force had the concessions been applicable only to mines discovered after the legislation came into effect, but it is difficult to understand how additional concessions to existing, profitable, mines would encourage future exploration. In addition, the government had received clear evidence in the previous year that its existing tax concessions were successful in encouraging increased foreign investment (see below, p. 75).

In fact it is apparent that no specific consideration was given to the question of what type of measure would best serve Ireland's interests. The head of the Mines and Minerals Section of the Department of Industry and Commerce, whose staff would have been involved in such an exercise, was not even consulted on the legislation. The Irish government clearly did not utilise the expertise made available by progress along a 'learning curve' by its officials. For example, it also failed to consult the Technical Adviser to the Minister for Industry and Commerce (an employee of the Geological Survey Office), who in fact believed that a more generous exemption was totally unnecessary, given the level to which the mining

30 Interview with the official concerned, 22 November 1978.
industry had by then developed.\textsuperscript{31}

The complexity of taxation provisions is hardly a sufficient justification for not imposing any taxes. As one commentator noted wistfully:

\begin{quote}
It is my sincere regret that Mr Haughey nor any of his successors in the Ministry of Finance ever found the laws on income tax equally complicated. There are many wage and salary earners who would crave for the simplicity of a twenty year exemption.\textsuperscript{32}
\end{quote}

Another circumstance which requires explanation is the failure of opposition party spokesmen to offer any criticism of the measure. Throughout the debate on the Budget Address, or during the passage of the legislation through the Dail, not a single voice was raised to criticise the granting of so generous a concession.

A credible explanation for the Irish government's behaviour has not been advanced to date. Critics of the legislation have claimed that Irish politicians served the interests of international mining companies without any concern for the national welfare, and that the twenty-year tax exemption was simply the most blatant example of this tendency. However, these critics have not explained \textit{why} Irish politicians should behave in such a manner.\textsuperscript{33} I believe a 'pay-off' was made by Irish politicians to foreign mining companies, but that this occurred precisely \textit{because} those politicians were pursuing the national interest as they perceived it. This

\textsuperscript{31} Interview, 8 November 1978.
\textsuperscript{33} See for example, Sinn Fein, \textit{The Great Irish Oil and Gas...
explanation will require some understanding of Irish economic history over the decades to 1967.

**Irish economic history 1922-1967: a brief survey**

Since independence, Ireland's most pressing economic difficulties have related to continuously high unemployment (itself, as we shall see, a cause of other economic ills), and, more immediately, to problems in balancing its international payments. The balance of payments did not in fact give rise to serious difficulties during the first decade after independence (1922-32). During this period, the Irish government adopted a policy of relative free trade,\(^ {34}\) reflecting the fact that at that time the terms of trade generally favoured Ireland's main export, agricultural products. In the 1920s, the value of Irish exports usually equalled approximately three quarters that of imports. As Ireland held a strong creditor position abroad, it was therefore relatively easy to balance the external payments account.\(^ {35}\)

However, reliance on agricultural exports offered no solution to unemployment and emigration, which continued at high

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\(^ {34}\) In fact, protective measures were taken in relation to certain industries during this period, some of which enjoyed considerable success in later years. But any all-round tariffs which might have raised costs to agriculture, thereby reducing the competitiveness of Ireland's principal export, were regarded as undesirable. J. Meenan, *op.cit.*, p. 318-19.

\(^ {35}\) Nevertheless the shape of things to come was evident at this stage, i.e. 'an overall deficit in payments in which a surplus on invisible earnings does not fully balance the shortfall in visible trade'. J. Meenan, *op.cit.*, p. 83
levels throughout the 1920s, fed by a stream of people leaving the agricultural sector as farming methods became less labour intensive.\textsuperscript{36} It also subjected Ireland to the vagaries of international trade in agricultural commodities. Severe economic dislocation accompanied periods of low demand and/or depressed prices for agricultural produce, as for example in 1921-23.

Fianna Fail leaders had long opposed free trade. They believed that to make Ireland independent of international market fluctuations, combat unemployment and emigration, and reduce the level of imports, it was necessary to foster local industries servicing domestic markets and protected by tariff barriers against cheaper imported goods, at least at the 'infant industry' stage. So when Fianna Fail came to power in 1932 it introduced a policy of protectionism: 43 new duties were imposed, and the overall level of duties rose to 45 per cent.

This import-substitution policy succeeded in increasing employment in industry from 110,588 in 1931 to 166,153 in 1938,\textsuperscript{37} but it also created serious difficulties. It protected inefficient producers, and raised prices for industrial goods. The competitiveness of Irish exports consequently declined and this, combined with the protectionist policies of customer nations and the generally low level of international economic activity in the wake of the Great Depression, led to a serious

\textsuperscript{36} Because of the censal periods used, figures for those leaving agriculture in the years 1922-30 are not available. An indication of the extent of this flow is given, however, by the fact that between 1926 and 1936 39,000 people left the agricultural sector. J. Meenan, op.cit., p.113.

\textsuperscript{37} L.M. Cullen, \textit{An Economic History of Ireland Since 1660}, (London, 1972), p. 76.
fall in the value of Irish exports. Imports did not decline at anything like the same rate, reflecting the fact that many of the raw material and other inputs for the new industries were not available in, or could not be produced competitively in, Ireland, and had to be imported. In 1933-35, for example, the value of exports amounted to only half that of imports, facing Ireland with a serious balance of payments problem.

More importantly, perhaps, the positive aspects of a protectionist policy were severely limited in their impact. Irish markets were small, and did not demand very extensive industrial production to fulfil those requirements which could be met by import substitution. Further increase in employment from this source was therefore unlikely after the late 1930s. Meanwhile unemployment remained high; in 1935, for example, it stood at 119,497, or approximately 9.7 per cent of the workforce.

The fundamental problem underlying the protectionist policy was that its basic assumption was incorrect. This assumption was that

Ireland can be made a self-contained unit, providing all the necessities of living in adequate quantities for the people residing in the Island at the moment and probably for a much larger number. 38

The immediate difficulty was that the Irish people did not accept the validity of this assumption. Their response was to utilise imported goods to provide the 'necessities of living', thus causing balance of payments problems, or to emigrate in order to obtain them, thereby defeating a principal objective of

38 Sean Lemass, quoted in J. Meenan, op.cit., p. 319.
the protectionist strategy. Worse still, protectionist policies tended to magnify precisely those problems which they were intended to remedy.

By allowing Irish companies to gain a monopoly position in many areas of the domestic market (which was often too small to support two concerns) these policies led to substantial increases in the cost of living and thus to a decline in real living standards. These developments might not of themselves have generated serious problems if the population's expectations had been low and the option of emigration had not been open. But the country's proximity to Britain and the constant flow of emigrants across the Irish Sea meant that a large section of the Irish population knew about and aspired to a higher standard of living and a wider range of goods and services than were available in Ireland. When economic conditions deteriorated at home, the response of many was to go abroad.

Thus in the 1930s and 1940s Irish people continued to emigrate in tens of thousands. Further decline in population narrowed even more the range of industries the home market could support, and increased the price paid to keep existing industries in production. The vicious circle was complete, as these developments in turn made emigration an even more attractive proposition.

The enforced restrictions on imports and on emigration caused by the Second World War and its aftermath hid the difficulties inherent in the protectionist strategy for a period. But in 1955-56, these emerged with a vengeance. In 1955 a large deficit on the balance of payments combined with a substantial net capital outflow to create a crisis of such magnitude that,
as one commentator noted, 'it provoked doubts in some minds as to the viability of an independent Irish State'.

Ireland lacked the buffer provided by her strong creditor position abroad in the 1920s and early 1930s, and consequently this crisis had a disproportionate impact on the Irish economy. To counter the balance of payments problem, severe deflationary measures were introduced. These measures did result in a sharp reduction in imports, but production and employment were adversely affected. Total industrial employment declining by 11 per cent between 1955 and 1958.

The severity of the unemployment thus created had a serious psychological effect on a country already preoccupied with emigration and employment. This impact was sharpened by the release of Census data in April 1956, which showed that, for the first time since 1926, the population had fallen significantly in an inter-censal period (1951-1956). The figures indicated net emigration of about 40,000 per annum, the highest rate since the 1880s.

In combination, the events of 1955-56 brought home with great force the conviction that an alternative economic policy to protectionist import-substitution was required. A major step towards a new approach was taken by the Coalition government in 1956 through certain provisions of the Finance Act 1956. These provided for partial remission of corporation and income taxes on profits received through new or increased export sales. But the new strategy was not explicitly

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40 *ibid.*, p. 16.
formulated or implemented as a coherent policy until the return to power, in March 1957, of a Fianna Fail government.

The basis of the new policy was to be the creation of mainly export-orientated industrial concerns financed by foreign investment. Foreign investment was to be encouraged by the provision to such concerns of generous taxation concessions, by a system of government grants to help foreign companies set up subsidiaries in Ireland, and by a range of other incentives. Effect was given to this policy through legislation introduced in 1957-59.

This strategy was designed to attack the fundamental problems facing the Irish economy, without interfering unduly with Irish-owned industries established under the earlier protectionist regime. By concentrating on exports, it would provide wider outlets for Irish industrial production, thus removing the limits placed on economic growth by the small size of the domestic market. Increased exports would alleviate the balance of payments problem, which preoccupied politicians more than ever after the crisis of 1955-56. Inflow of capital could also be expected to increase, with similar effect. Most important of all, opportunities for employment would not be

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41 For details of the incentives offered see D. McAleese, 'Capital Inflow and Direct Foreign Investment in Ireland', Journal of the Statistical and Social Inquiry Society of Ireland, 1971-72, pp. 80-6.

42 The amount and duration of the taxation concessions introduced in 1956 were extended by the Finance Acts of 1957 and 1958. Grants towards industrialisation in specific areas made available by the Undeveloped Areas Act 1952 were extended to the whole country in 1957, and the restrictions imposed on foreign investment by the Control of Manufactures Acts 1932-1934 largely dismantled by the introduction of the Industrial Development (Encouragement of External Investment) Act in 1959.
restricted by the limits of import-substitution industries. This fact, combined with the greater availability of goods and services made possible by higher exports, would halt the flow of emigrants, thus breaking the 'vicious circle' described above.

In effect, the Irish government was offering foreign investors a trade-off. It offered them a 'pay-off' in the prospect of tax-free, profitable investment in a 'favourable' business climate. In return, it expected to see additional employment and export receipts generated. Thus Irish politicians could credibly present themselves to their constituents as being capable of dealing with what were generally seen as the most serious economic problems facing Ireland. This was to be their 'pay-off'.

The Irish government's approach to the mining industry now becomes fully comprehensible. Foreign investors were prepared to develop an industry which would export 100 per cent of its output. In so doing, they would add to the capital inflow, provide employment, not compete with any local industrial enterprise, and, unlike manufacturing concerns, not require government subsidisation through provision of grants or facilities. In fact, they would give a government pursuing the strategy outlined above all it could ask for. Thus it was to be expected that, like other foreign-financed industrial concerns, mining companies would receive a quid pro quo. In this instance, it took the form of a generous tax concession. An important element in this explanation is that Irish politicians assumed that foreign mining companies, like their counterparts in other sectors, did in fact require a 'pay-off' if they were to
undertake (or to continue) mineral production in Ireland.

This interpretation offers an explanation for a number of the discrepancies mentioned earlier. First, it explains the failure of Irish governments to take advantage of favourable changes in their bargaining power. Utilisation of such changes would have been inconsistent with the perceived need to offer a 'pay-off' to foreign investors. Similarly, the expertise which had been acquired by members of the Department of Industry and Commerce and of the Geological Survey Office was not needed, and this explains why the relevant individuals were not consulted in 1967. Second, the failure of the Fianna Fail government to justify its decision on the twenty-year tax exemption in a credible manner is understandable, in that government ministers took for granted public acceptance of the wider strategy of which that decision formed a part. By 1967, this acceptance was almost universal among the Irish public and among politicians of all the major political parties, which explains the failure of the opposition to criticise the tax exemption in parliament.

A number of important questions remain. First, was it in fact necessary for the Irish government to make a 'pay-off' in order to ensure that foreign investors would undertake mineral production in Ireland? Second, did Irish decision-makers adopt the correct strategy in pursuit of their policy aims? In other words, has foreign mining investment generated the benefits expected of it?

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43 This acceptance was based on the attribution of the increased growth rates and declining emigration which characterised the years 1958-67 to the strategy of foreign-financed industrial development.
Foreign investor-host country relations in Ireland

In dealing with the first question, a distinction must be maintained between the concessions offered to foreign investors by the twenty-year tax exemption and those provided by the 1956 legislation. Much of the evidence available in 1967 suggested that the granting of a more generous concession to foreign mining companies was unnecessary. This was certainly true of those companies which had committed funds to mine development, and were already (or soon expected to be) earning substantial profits. It is possible that some additional concession was needed to encourage development of marginal mines, though the decision to develop Gortrum, a marginal deposit, was taken before 1967. It would however have been possible, as was done later, to provide such a concession without foregoing revenue from profitable mines.

The question of investment in exploration is more complex, but here too the available evidence indicated the efficacy of existing legislation. During the years 1963-65, exploration activity declined from a peak reached in the wake of the Tynagh discovery in 1961. In 1965, the qualification period for the 1956 tax legislation was extended by ten years to April 1976. This gave a significant boost to exploration, and in the following year the number of new companies becoming involved in exploration increased substantially (14 as opposed to six in 1965 and two in 1964), as did the number of prospecting licences held and the total area covered by such licences.

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44 Special provisions relating to marginal mines were included in the Finance (Taxation of Profits of Certain Mines) Act, 1974. These provisions have already been applied in one case.

45 M. O'Kelly, op.cit., pp. 139-49.
The decline in exploration activity in 1963-65, combined with this response to the extension of the 1956 legislation, indicate that it was still necessary to offer some financial incentive to attract foreign investment into mineral exploration of Ireland. It is of course possible that the concessions offered by the 1956 legislation could have been reduced to some extent without affecting the flow of investment.

Thus the evidence available in 1967 indicated that the granting of a twenty-year tax exemption was not necessary to the maintenance of mineral production, or to ensure continued investment in exploration activity. What lay behind the failure of the Fianna Fail government to correctly interpret the situation at that time?

The immediate explanation is quite simple. Foreign mining companies claimed that they needed more generous tax concessions, and the government believed them. To understand this response, it is necessary to look more closely at the nature of relationships between foreign mining concerns and Irish politicians.

First, two aspects of the manner in which Irish politicians viewed foreign mining concerns must be emphasised. They clearly believed that Ireland should be grateful to foreign concerns which brought in their capital and expertise and thus facilitated mineral development. As one Deputy expressed it, 'We should welcome to this country anybody who is prepared to invest money here and employ people who would otherwise have to emigrate'.

A number of years later, another Deputy stated the view that,
'We should be grateful to people who are prepared to come in and invest their own money', while one of his colleagues felt compelled to 'pay a special tribute to the very progressive Canadians who have come here to help in the development of our mineral resources.' There seems to have been no awareness that Ireland was engaged in an exchange relationship, that valuable mineral resources were being made available to foreign investors in return for their capital and expertise, and that Ireland should apply the bargaining power represented by mineral ownership to ensure maximum returns to itself from their exploitation. Rather, a 'begging bowl' attitude was predominant: Ireland was fortunate to receive foreign mining investment at all, and was consequently fortunate to receive any returns from development of its minerals.

The second point is that Irish politicians clearly believed that while foreign mining companies knew their business well, the Irish authorities knew very little about the mining industry. Consequently any intervention on their part might have adverse effects. This view was strengthened by frequent references to the role supposedly played by the government of the day in the Avoca debacle. From the mid 1960s onwards, a number of politicians, including the Deputy Leader of the Labour Party and the Minister for Industry and Commerce in the Fianna Fail government, frequently repeated the assertion that government intervention had been responsible for the

\[47\] Dail Debates, 3 May 1967.
failure of the Avoca mine. As we have seen, the prime responsibility for that failure lay in the foreign investor concerned (see above pp.54-5). Nevertheless, statements attributing blame to the government were not challenged in the Dail, reflecting a general acceptance of the viewpoint they expressed. Neither was it recognised that the issue of government involvement in mining operations was quite separate to that of its role in determining the financial and economic framework within which those operations should take place.

Irish politicians, therefore, had scant regard for their own bargaining position or for the ability of Irish authorities to exercise expertise in the mining field. On the other hand, they held the expertise and knowledge possessed by foreign mining companies in very high regard. Their response to this situation was to accept as valid the mining industry's account of what it needed. They drew no distinction between what the industry needed and what it wanted, with the result that government policy was usually determined by what foreign mining companies asked for.

There is general agreement that the introduction of the twenty-year tax exemption followed a period during which foreign mining concerns had demanded more generous concessions. The Irish government apparently decided to accept without question the claim that a greater incentive was required to

48 See, for example, Dail Debates, 3, 23 May 1967 and 29 June 1972.

49 See the statement by the then Minister for Finance on pp.64-5 above; interviews with officials of the Department of Industry and Commerce and of the Geological Survey Office, 24 October, 8, 22 November 1978.
ensure maintenance of production and continued investment in exploration. If the Minister of Industry and Commerce had consulted his departmental officials, they would have pointed out to him that what the mining companies wanted was not necessarily what was required to ensure their continued involvement. That he failed to do so is clear evidence of the automatic way in which government policy responded to the demands of foreign mining companies.

It seems likely that those same companies played a role in fostering and enforcing the attitudes discussed above. It is very difficult to present conclusive information concerning the impact of foreign investors (or, indeed, of any investors) on the outlook and attitudes of politicians. The latter will rarely admit to being influenced by the representatives of corporate interests, while foreign investors are loath to acknowledge they possess influence over decision-makers in the host country. This has certainly been the case in Ireland. Yet it is not possible to ignore this issue simply because relevant documentary evidence is not available.

In the Irish case, it is quite clear that close relationships existed between various politically influential individuals and officials of foreign mining companies. The President of the Northgate group, for instance, was a personal friend of the Deputy Leader of the Labour Party, and of a number of senior Fianna Fail ministers. A Northgate official informed me that its President rarely contacted a civil servant concerning any aspect of the group's operations over the period from the early 1960s to 1973: he had immediate and continual access to senior members of the governing Fianna Fail
These relationships were probably strengthened by the fact that a number of family relations of senior politicians were employed by foreign mining companies. (This is not to suggest that any of the individuals involved were not qualified for the positions they held). For example, the son of the Deputy Leader of the Labour Party became Secretary of Tara Mines Limited (an associated company of Northgate's), while the brother-in-law of the current Minister for Industry and Commerce was also employed by Tara.

Without engaging in speculation, it can be said that relationships of the type described above might have acted as a channel for ideas and opinions and represented a means by which influence could be exerted.

Did foreign mining investment generate the economic benefits expected of it? The following sections examine the economic impact of foreign-financed mining projects over the period 1964-77. In certain instances, data required for analysis of the non-ferrous mining sector as a whole could not be obtained, and in these cases the operations of the Northgate group (concerning which information was available) are analysed separately. The conclusions derived from such an analysis are probably valid for the sector as a whole, as the other projects (Silvermines, Avoca) were similar to Tynagh and Gortrum in the mining techniques employed, in the materials produced, in the extent to which they were foreign owned, and in being entirely financed by foreign capital. At times use is made of financial statistics relating to the Northgate group,

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50 Interview, 1 November 1978.
and the relevant data is presented in Table 1.

The various economic impacts are discussed below under separate headings.

Generation of government revenue

Direct revenue accrued to the government in two ways. Royalties were charged on net profits throughout the period under review, on a rising scale to a maximim of 10 per cent. Mining companies were exempt from corporation tax until 1973, after which they became liable at the standard rate (then 50 per cent).

Lack of data makes it difficult to accurately assess taxation receipts. The Irish government does not publish details of royalty payments by individual companies, and industry sources are frequently unreliable (see p. 84). For the industry as a whole, royalty payments to June 1973 were £1,869,000; as far as could be ascertained, relevant figures have not been released since that date.

Official information regarding corporation tax is also sparse, but accurate figures can be calculated from the published accounts of individual companies, and these are presented in Table 2.

Table 2 indicates that the Irish government obtained significant amounts of direct revenue after the ending of the industry's tax exemption in 1973, to the tune of approximately £9 million in five years. A very high proportion of this

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51 The twenty-year tax exemption was abolished by the Fine Fail/Labour Party coalition government in September 1973. See p.113 below.
Table 1
Financial Statistics, Tynagh and Gortrum Mines, 1966 to End 1977 (Canadian $'000s)

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<tbody>
<tr>
<td>Gross receipts from metal and metal concentrate sales</td>
<td>15,792</td>
<td>24,998</td>
<td>24,745</td>
<td>22,257</td>
<td>27,325</td>
<td>23,580</td>
<td>26,891</td>
<td>42,816</td>
<td>40,184</td>
<td>33,798</td>
<td>19,438</td>
<td>22,565</td>
<td>324,389</td>
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<tr>
<td>Deduct shipping, smelting and marketing expenses</td>
<td>5,547</td>
<td>9,556</td>
<td>8,627</td>
<td>6,271</td>
<td>7,679</td>
<td>10,393</td>
<td>10,176</td>
<td>14,700</td>
<td>14,239</td>
<td>13,380</td>
<td>7,830</td>
<td>8,657</td>
<td>117,055</td>
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<td>Deduct expenses as follows:</td>
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<tr>
<td>Operating Expenses **</td>
<td>3,387</td>
<td>4,804</td>
<td>4,736</td>
<td>4,293</td>
<td>8,318</td>
<td>9,303</td>
<td>12,395</td>
<td>14,314</td>
<td>16,374</td>
<td>8,790</td>
<td>10,660</td>
<td>106,143</td>
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<td>Government Royalty</td>
<td>420</td>
<td>738</td>
<td>738</td>
<td>887</td>
<td>834</td>
<td>61</td>
<td>263</td>
<td>1,171</td>
<td>911</td>
<td>19</td>
<td>190</td>
<td>247</td>
<td>6,479</td>
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<td>Taxation attributable to mining income</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,686</td>
<td>51</td>
<td>-</td>
<td>-</td>
<td>2,737</td>
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<tr>
<td>Depreciation</td>
<td>967</td>
<td>1,065</td>
<td>1,142</td>
<td>1,399</td>
<td>2,112</td>
<td>2,677</td>
<td>2,451</td>
<td>2,797</td>
<td>3,085</td>
<td>2,357</td>
<td>1,806</td>
<td>1,599</td>
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<td>Amortization of preproduction and other expenditures</td>
<td>542</td>
<td>779</td>
<td>791</td>
<td>530</td>
<td>1,425</td>
<td>1,510</td>
<td>1,244</td>
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<td>998</td>
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<td>-</td>
<td>-</td>
<td>338</td>
<td>303</td>
<td>317</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Exploration</td>
<td>-</td>
<td>339</td>
<td>495</td>
<td>519</td>
<td>979</td>
<td>1,081</td>
<td>422</td>
<td>526</td>
<td>594</td>
<td>1,034</td>
<td>1,541</td>
<td>2,371</td>
<td>9,901</td>
</tr>
<tr>
<td>NET INCOME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Attributable to mining</td>
<td>(1,114)</td>
<td>2,735</td>
<td>9,605</td>
<td>3,185</td>
<td>169***</td>
<td>44,371</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Attributable to Tynagh</td>
<td>3,672</td>
<td>7,103</td>
<td>8,216</td>
<td>8,358</td>
<td>5,640</td>
<td>(1,020)</td>
<td>3,614</td>
<td>8,281</td>
<td>2,827</td>
<td>(1,299)</td>
<td>(1,475)</td>
<td>(1,723)</td>
<td>42,194</td>
</tr>
<tr>
<td>- For Northgate Group</td>
<td>3,783</td>
<td>7,605</td>
<td>8,346</td>
<td>8,721</td>
<td>6,268</td>
<td>(1,306)</td>
<td>3,094</td>
<td>9,120</td>
<td>4,026</td>
<td>1,156</td>
<td>(598)</td>
<td>(590)</td>
<td>49,625</td>
</tr>
<tr>
<td>Capital Expenditure +</td>
<td>1,022</td>
<td>995</td>
<td>1,020</td>
<td>1,382</td>
<td>3,790</td>
<td>5,573</td>
<td>1,709</td>
<td>739</td>
<td>1,043</td>
<td>372</td>
<td>455</td>
<td>243</td>
<td>18,343</td>
</tr>
<tr>
<td>Dividends paid</td>
<td>-</td>
<td>-</td>
<td>2,725</td>
<td>2,770</td>
<td>2,826</td>
<td>1,510</td>
<td>-</td>
<td>-</td>
<td>4,059</td>
<td>1,723</td>
<td>-</td>
<td>-</td>
<td>1,850</td>
</tr>
</tbody>
</table>

* For these years, the data applies to the Tynagh mine alone.
** These include operating costs at the mine and also administrative and general expenses.
*** Capital Expenditure consists of additions to fixed assets (buildings, equipment etc.) and outlays on the underground development at Tynagh.
++ As no mining income was received in these years, it is assumed that no tax liability was incurred.
**** The sum of the figures in this column indicate a loss for the year of C.$415,000. Profit on disposal of fixed assets of the Gortrum mine amounted to C.$584,000, thus giving an overall profit of C.$169,000.
### Table 2

**Income Tax Liability of Mining Companies in Ireland**

*1973-1977 (£'000's)*

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Northgate Group*</td>
<td>-</td>
<td>**</td>
<td>1,124</td>
<td>23</td>
<td>-</td>
<td>1,147</td>
</tr>
<tr>
<td>Mogul of Ireland</td>
<td>1,176</td>
<td>1,656</td>
<td>1,356</td>
<td>2,316</td>
<td>1,188+</td>
<td>7,692</td>
</tr>
<tr>
<td>Avoca Mines Ltd.</td>
<td>50++</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50</td>
</tr>
</tbody>
</table>

**Total** | 8,899 |

**Sources:** *Annual Reports*, Northgate Exploration Ltd., Silvermines Ltd., various years; information supplied by Avoca Mines Ltd.

**Notes:**
* - On income attributable to mining only.
** - Northgate's mining income was subject to tax in 1973, but because of accumulated deductible allowances no liability was actually incurred.
+ - In 1977 Silvermines Ltd. did not provide information on Mogul of Ireland's tax liability (*Annual Report*, 1977, p. 4). It is presumed that Mogul paid corporation tax at the prevailing rate of 45 per cent.
++ - This liability did not lead to a tax payment.

Revenue was generated by Mogul of Ireland's mine. The Northgate group contributed little, because the profitable high-grade mining period at the Tynagh mine was over by 1974, when Northgate first became liable to taxation.

Government revenue also accrues from employee taxation. Since much of the labour employed would probably otherwise have received a substantial profit in 1974, but this was due to the unusually high metal prices then prevailing. Its profitability did not outlast the period of high prices.

Indirect taxation has apparently been insignificant, as mining industry imports have been exempt from customs duties and domestic purchases exempt from sales tax. Interview with Northgate official, 1 November 1978.
been idle, this revenue can be regarded as a net addition to national income. On the basis of figures supplied by Northgate, employee taxation has been estimated at £12.5 million over the years 1964-77. It was thus similar in scale to total direct taxation over the same period (about £11 million). This situation reflects the very low levels of direct taxation applied prior to 1973, and is unlikely to continue into the future.

Little opportunity has existed for transfer pricing in the non-ferrous mining industry, as the operating companies sell their output on an 'arms length' basis, and as none of their parent companies hold significant interests in overseas producers of mining inputs. However, examination of Northgate's accounts over the period 1962-77 did reveal a number of discrepancies.

First, the Company's published figures overestimate both the liability of the Irish subsidiaries to royalty payments and the payments actually made. For example, the Tynagh lease

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54 In 1974 28 per cent of the wages and salaries paid to Northgate's employees was absorbed by taxation and social welfare contributions, and a similar figure probably applied to other mines (interview with Northgate official, 1 November 1978). It is unlikely that this percentage varied very much from year to year, as effective personal tax rates in Ireland change only marginally over time. The estimate for employee taxation was obtained by applying this percentage to the figures for total wage and salary payments contained in Table 3 below.

55 Transfer pricing has apparently occurred in the non-metallic minerals industry, which is dominated by subsidiaries of vertically-integrated multinational corporations. Interview with Department of Industry and Commerce official, 28 September 1978.

56 Concentrates are sold to independent smelters at prices based on LME quotations.

57 This was established by examining information disclosed by the parent companies in their annual reports regarding their associated companies and principal investments.
called for royalty payments of £257,000 or C$662,000 in 1969, while Northgate stated royalty payments to have been £345,000 or C$887,000. This divergence was not due to any time lag in collection of royalties, as it occurs throughout the period 1966-77. During these years, total stated royalty payments by the Irish subsidiaries amounted to 13 per cent of profits attributable to mining, (See Table 1), whereas the maximum rates applicable to the Tynagh and Gortrum mines were 9 and 10 per cent respectively. (A significant proportion of profits would have paid royalties at lower rates.)

In addition, the royalty rates called for in the mining leases were not in fact applied. In 1968, for example, total royalty receipts by the Irish Exchequer amounted to £200,867. (A number of mining and quarrying projects other than Tynagh were also liable to royalty payments.) Yet Tynagh's liability in that year was £252,000.

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58 Profits attributable to mining were C$8,358,000 or £3,248,000. Royalty rates would, according to the mining lease, be as follows:

- 6% of £700,000 = £42,000
- 7% of £350,000 = £24,500
- 8% of £700,000 = £56,000
- 9% of £1,498,000 = £134,820

Source: Minister for Industry and Commerce, op.cit., p.9; Table I.

59 Profits attributable to mining were C$8,216,000 or £3,186,000. Royalty rates would, according to the mining lease, be as follows:

- 6% of £700,000 = £42,000
- 7% of £350,000 = £24,500
- 8% of £700,000 = £56,000
- 9% of £1,436,000 = £129,240

Source: Minister for Industry and Commerce, op.cit., p.9; Table I.
Northgate's motives for overestimating its royalty payments are somewhat of a mystery. The only explanation which presents itself is that the Company wished to exaggerate its contribution to the Irish economy for public relations reasons.

The second discrepancy relates to the application of amortization and depreciation allowances to Northgate's Irish operations. Expenditures associated with mine development and not allowable for depreciation under general tax provisions were amortized over the estimated life of the mine; items which were so allowable were depreciated over varying time periods. It is evident that an element of double depreciation was involved in these procedures. The Tynagh mine was still in operation in 1977, and amortization and depreciation was consequently incomplete. Thus the sum of amortization and depreciation allowances should have been less than the sum of all relevant expenditures. In fact it was C$3.9 million more, indicating that double depreciation had been affected to an amount in excess of this sum.

The result was that Northgate's taxable income, and consequently government revenue, was diminished. The allowances claimed by Northgate would of course have been sanctioned by the taxing authority (the Department of Finance), and the question arises as to why Irish officials should condone loss of tax


61 Initial investment in the Tynagh mine was C$13,082,000, and subsequent capital expenditure on Tynagh and Gortrun was C$18,343,000 (Derived from Northgate Exploration Ltd., *Annual Reports*, 1962-1977). To 1977, amortization and depreciation allowances totalled C$35,309,000 (See Table 1).
Generation of employment and wage payments

Mining operations in Ireland are highly capital-intensive, and their employment-generating potential is consequently limited. For example, the average capital investment per job in overseas grant aided firms operating in Ireland was £7,850 in 1976; the capital cost per job at the Navan mine, which came on stream in the following year, was £93,800. Direct employment in mining increased from 104 in 1964 to 2,100 in 1977 (about 0.2 per cent of the workforce).

Though small in extent, the type of employment provided does have attractive features. Mining employment is largely located outside the most prosperous regions, and therefore has a favourable impact on regional income distribution. The provision of employment in poorer areas can also have an important social impact, as it can stem the flow of local people to major Irish cities and abroad, preventing further social and economic decline. In certain cases, however, mine employment may only delay the process of decline. Such employment is finite, and the characteristics of regions suffering economic decline militate against alternative employment being available when a mine is exhausted. When the

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62 Total capital costs were £75 million, and 800 permanent jobs were created.

63 The population of Loughrea, Co. Galway, situated near the Tynagh mine, for example, had been falling over many years and had reached an all-time low of 2,784 in 1966. By 1968, it had reached 3,000.
Tynagh mine closes in 1980, for example, it is unlikely that more than a small percentage of its workforce will find jobs locally.

Another attractive feature is that the vast majority of the mining workforce is male, over 95 per cent in 1974. Provision of male employment is seen in Ireland as an essential prerequisite for reducing emigration. It has been given added urgency by recent developments in the national workforce. The decline of traditional male-employing heavy industry has been accompanied by rapid growth of foreign-financed light industries utilising predominantly female labour. Mine employment has made a contribution towards restoring the balance.

No reliable estimates exist regarding the extent of indirect employment created by the industry's purchases of goods and services. Kearns claims that five additional jobs result from every one at the mine. This figure follows a generally accepted estimate, but does not seem to reflect any detailed research into the question. In fact a job multiplier of five seems grossly inflated. For example, Nickel et.al. estimate that 2.0 is the job multiplier for the Canadian mining industry, while the Australian Mining

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66 Kearns gives as his source an article in a small provincial newspaper, The Wicklow People, while the other authors give no source for their estimates.

Industry council estimates the multiplier in Australia at 2.75. The Australian and Canadian economies are in a position to supply a higher proportion of mining inputs than is the case in Ireland, and it is very unlikely that the job multiplier in Ireland would be higher than in those countries. Thus a multiplier of 2.0 would probably not overestimate the mining industry's indirect impact on employment. Total employment generated by mining is therefore estimated at about 6,000 in 1977, or 0.6 per cent of the workforce.

Table 3 gives details of wage and salary payments to mineworkers over the period 1964-77. Total wage and salary payments for this period were £44.8 million. It must be remembered that a large portion of these wages and salaries were expended in areas suffering from economic and social decline. They consequently possessed an added significance in that their expenditure probably rendered viable services (e.g. transport, retail outlets, schools) which would otherwise have been uneconomic. Thus a benefit accrued to the non-mining population, but the extent of any such 'spin-off' cannot be measured.

---

Table 3

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>58</td>
</tr>
<tr>
<td>1965</td>
<td>171</td>
</tr>
<tr>
<td>1966</td>
<td>400</td>
</tr>
<tr>
<td>1967</td>
<td>795</td>
</tr>
<tr>
<td>1968</td>
<td>1,279</td>
</tr>
<tr>
<td>1969</td>
<td>1,835</td>
</tr>
<tr>
<td>1970</td>
<td>2,614</td>
</tr>
<tr>
<td>1971</td>
<td>3,334</td>
</tr>
<tr>
<td>1972</td>
<td>3,752</td>
</tr>
<tr>
<td>1973</td>
<td>4,695</td>
</tr>
<tr>
<td>1974</td>
<td>5,330</td>
</tr>
<tr>
<td>1975</td>
<td>4,725</td>
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<tr>
<td>1976</td>
<td>5,429</td>
</tr>
<tr>
<td>1977</td>
<td>10,413</td>
</tr>
<tr>
<td>Total</td>
<td>44,830</td>
</tr>
</tbody>
</table>

Notes: * - The figures for 1973-1977 are estimates, based on information supplied by Avoca Mines Limited regarding its average wage and salary payments in each year.

Source: Published company documents; information supplied by Avoca Mines Ltd.

Creation of additional economic activity through linkage development

Backward linkage: Detailed information on mining industry purchases of goods and services is only available for the period 1964 – June 1973. The relevant data is contained in Table 4; total expenditures during this period were £31 million.
Table 4

Local Disbursements by Operating Companies,
1964 to end June 1973 (£'000's)

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>257</td>
</tr>
<tr>
<td>1965</td>
<td>939</td>
</tr>
<tr>
<td>1966</td>
<td>1,770</td>
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<td>1967</td>
<td>2,369</td>
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<td>1968</td>
<td>2,912</td>
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<tr>
<td>1969</td>
<td>4,028</td>
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<tr>
<td>1970</td>
<td>4,910</td>
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<tr>
<td>1971</td>
<td>5,714</td>
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<tr>
<td>1972</td>
<td>4,665</td>
</tr>
<tr>
<td>1973</td>
<td>3,392</td>
</tr>
<tr>
<td>(to end June)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30,956</td>
</tr>
</tbody>
</table>

Source: Published Company Documents

Many of the inputs used in mining have been imported, particularly machinery and equipment. The Canadian origin of the companies concerned apparently influenced sourcing of equipment purchases, which have been made almost exclusively in Canada. However, it is extremely unlikely that the Irish mining industry could have provided a sufficiently large market to allow the economies of scale required for efficient domestic production of items such as underground mining equipment or concentrating machinery. The only real choice facing any investor (domestic or foreign) would have been whether to make the purchase in, for example, Britain, Canada or the United States. Assuming that Canadian suppliers were competitive, it is therefore unlikely that Ireland's interests suffered from the inclination of foreign investors to purchase goods in their home
country.

The proportion of total capital expenditure being made in Ireland has risen sharply over the period since early mineral developments took place. For the most recent project completed, the Navan zinc/lead mine, the relevant figure was 57 per cent.\(^6^9\) Accurate figures are not available for earlier projects, but a measure of the change can be obtained by calculating total local expenditures (which would include some non-capital items) as a percentage of capital costs during the development period of the Tynagh zinc/lead deposit, 1964-65.\(^7^0\) This figure is 18 per cent. Since almost all equipment purchases continued to be made abroad, the trend in other categories of expenditure has clearly been more dramatic than these figures suggest.

Two factors account for this trend. First, the companies involved in later projects have felt it necessary, for political reasons, to be seen to make as large a contribution as possible to the Irish economy. They have consequently followed a deliberate policy of using local sources of supply where possible.\(^7^1\) Second, Irish firms seem to have been slow to take advantage of the opportunities presented by mineral development. This lag in linkage development probably reflected the time required for local companies to acquire the relevant information, skills and capabilities. Indeed, information was apparently the key factor, as many of the opportunities available

\(^{69}\) Information supplied by Tara Mines Ltd.

\(^{70}\) The relevant amounts are C$1,993,000 for local expenditures and C$11,000,000 for total development costs.

\(^{71}\) This has been the case particularly as regards the Navan development.
involved activities (e.g. shaft sinking, provision of structural steel) already being carried on by local firms.

The proportion of current expenditures being made in Ireland has also increased over time, probably for the same reasons, and stands at about 80 per cent for currently operating mines, as opposed to about 65 per cent during the early period of Tynagh's operations.

It should be noted that the companies involved did not utilise commodities produced by affiliates. Had they done so, their attitude towards using domestic sources of goods and services might have been different.

Forward linkage: All non-ferrous minerals produced in Ireland were exported in concentrate form, and consequently forward linkage was absent. The reasons for its failure to emerge are complex, and require detail examination.

Since the early 1960s, the Northgate group had been committed to constructing a zinc smelter in Ireland. Over the period 1966-68, it spent C$400,000 on detailed feasibility studies, which indicated the project was viable. By Spring 1969 Northgate had purchased a suitable site, and it set about establishing a consortium to finance the project. It hoped that the undertaking would be shared on a 40:40:20 basis between itself, Rio Tinto Zinc (RTZ) and Mogul of Ireland.

It was necessary to involve Mogul as the Tynagh mine alone could not provide sufficient concentrate to supply the smelter,

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72 This is the proportion which applies to the Navan zinc/lead mine and the Avoca Mines copper mine. Information supplied by Tara Mines Ltd. and Avoca Mines Ltd.

73 Derived from Tables 1 (p.85) and 5 (p.97).
intended to have an annual capacity of 60-75,000 tons zinc. RTZ's participation was sought because, as a major mining and finance house, it could assist in raising capital for the project, and also because of its experience in the zinc smelting business. RTZ's motives for involvement were, as it turned out, less straightforward.

At this time, a cartel controlled the European zinc industry, and its members did not welcome an independent competitor. They would do all in their power to prevent the construction of a smelter in Ireland but, if one was to be built, they wished to involve it in the cartel. In order to influence the course of events as much as possible, they were anxious that a member of the cartel should participate in the Irish project. RTZ was nominated for two reasons. First, its zinc smelter at Avonmouth, near Bristol, drew part of its concentrate supply from Irish mines, and rerouting of these concentrates could cause it difficulties. Second, the bulk of Irish zinc output would be sold on the British market in competition with the Avonmouth smelter.

A date was fixed for the signing of the consortium agreement, but at this stage Northgate ran into trouble.

When the Tynagh and Silvermines deposits were discovered, Northgate and Mogul had encountered serious difficulties in raising development finance. Irish, Canadian and international banks were approached, without success. All attached significant risks to mineral investment in a country which had seen only one major base metal mining operation during the previous century, and that had been a financial disaster. The only funds available were customer credits from the smelters who were to purchase mine output.
One condition attached to these loans was that the mining companies would supply their entire output to the smelters concerned until repayment was complete. Unlike Tynagh, Mogul had not yet repaid its loans in 1969. Given what has been said above, it is not surprising that the smelters held Mogul to its commitment. Mogul concluded that it could not depart from the terms of its contracts, and could not therefore divert its concentrates to an Irish smelter. This dealt Northgate's plans a serious blow since, as mentioned above, Tynagh alone could not support a viable smelter.

Another blow was in store for Northgate. Its officials were gathered in a Dublin hotel for the signing of the consortium agreement when they were informed of RTZ's withdrawal from the project. RTZ had allowed Northgate to proceed as far as possible with project development, making alternation of its plans as difficult, time-consuming and expensive as possible. It then dropped out at (literally) the very last moment.

Northgate had been deprived of an important source of concentrates, and of a source of finance and of the relevant technical expertise. It kept the smelter 'on the boards' for a number of years, but to all intents and purposes the project was dead.

Thus the first stage of forward linkage failed to materialise, at least for the time being. The use of foreign capital played some role in that failure, but in this instance the type of foreign capital involved (i.e. smelter loans) was the most important factor. Had Mogul of Ireland had access to

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74 Interview with Northgate official, 1 November 1978.
75 ibid.
'normal' channels of credit, it would have accepted the conditions attached to the smelter loans.

However, in the final analysis, it was the withdrawal of a principal source of the required capital and expertise which killed the smelter project. No matter how or by whom Irish mineral developments were financed, it was probably inevitable that a painful lesson would be imparted to the operating companies by the members of the European zinc cartel. Significantly, the next time a smelter project was mooted (1976), the foreign zinc smelting company chosen to participate had no links with that cartel.  

Net foreign exchange inflow

Mineral exports as a percentage of total exports were at their highest in 1970 at 4.7 per cent, declining to 1.3 per cent in 1977, primarily as a result of a rapid rise in the value of total exports (almost 300 per cent between 1970 and 1976). With the commissioning of the Navan mine, the contribution of mineral exports will increase substantially.

Table 5 calculates the net foreign exchange inflow resulting from Northgate's mining operations. Net smelter revenue represents the total value to Ireland of ore exported. Items representing expenditures in Ireland can be identified, and since Northgate's financial subsidiary in Ireland, IBM, remitted cash balances to the Canadian parent company at

76 The company was New Jersey Zinc, a subsidiary of the Gulf and Western Corporation.

### Table 5

**Net Foreign Exchange Inflow,**

Tynagh and Gortrum Mines, 1966-1972 (C$'000's)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Smelter Revenue</td>
<td>10,245</td>
<td>15,442</td>
<td>16,118</td>
<td>15,986</td>
<td>19,646</td>
<td>13,187</td>
<td>16,715</td>
<td>107,339</td>
</tr>
<tr>
<td>Local Disbursements</td>
<td>2,203</td>
<td>2,268</td>
<td>3,344</td>
<td>2,981</td>
<td>6,210</td>
<td>7,469</td>
<td>5,689</td>
<td>30,164</td>
</tr>
<tr>
<td>less Import Content of Local Disbursements*</td>
<td>980</td>
<td>1,009</td>
<td>1,488</td>
<td>1,326</td>
<td>2,764</td>
<td>3,324</td>
<td>2,532</td>
<td>13,423</td>
</tr>
<tr>
<td>Net Local Disbursements</td>
<td>1,223</td>
<td>1,259</td>
<td>1,856</td>
<td>1,655</td>
<td>3,446</td>
<td>4,145</td>
<td>3,157</td>
<td>16,741</td>
</tr>
<tr>
<td>Payroll Costs</td>
<td>960</td>
<td>1,349</td>
<td>1,346</td>
<td>1,485</td>
<td>2,582</td>
<td>3,657</td>
<td>4,122</td>
<td>15,501</td>
</tr>
<tr>
<td>Dividends to local shareholdings</td>
<td>-</td>
<td>-</td>
<td>545</td>
<td>554</td>
<td>565</td>
<td>302</td>
<td>-</td>
<td>1,966</td>
</tr>
<tr>
<td>Government Royalty</td>
<td>420</td>
<td>738</td>
<td>738</td>
<td>887</td>
<td>834</td>
<td>61</td>
<td>263</td>
<td>3,941</td>
</tr>
<tr>
<td>NET FOREIGN EXCHANGE INFLOW</td>
<td>2,603</td>
<td>3,346</td>
<td>4,485</td>
<td>4,581</td>
<td>7,427</td>
<td>8,165</td>
<td>7,542</td>
<td>38,149</td>
</tr>
<tr>
<td>- As % Net Smelter Revenue</td>
<td>25.4%</td>
<td>21.6%</td>
<td>27.8%</td>
<td>28.6%</td>
<td>37.8%</td>
<td>61.9%</td>
<td>45.1%</td>
<td>35.5%</td>
</tr>
</tbody>
</table>

Source: Table 1; Published company documents.

Notes: + Only the Tynagh mine's operations are included in these years.

* Import content of local disbursements was taken as 44.5%, an estimate derived from published company documents.
three-monthly intervals, it can be taken for granted that net revenue remaining after charging these items left the country. Precise data was available regarding all major categories of local expenditure: payroll costs, government royalties, local disbursements, and dividend payments to local shareholders. The only item which required estimation was the import content of domestic expenditure.

Table 5 indicates that net foreign exchange inflow amounted to 35.5 per cent of the value of export receipts over the period 1966-72. It was accounted for by government revenue (10 per cent), payroll costs (41 per cent), domestic purchases of goods and services (44 per cent), and dividend payments to local shareholders (5 per cent).

Table 5 also shows that the proportion of export receipts retained in Ireland increased substantially over this period. Two factors explain the change. Metal prices were depressed in 1971-72, and so a greater proportion of revenue was being directed towards current and capital expenditure (a substantial proportion of which was made in Ireland), and a smaller proportion towards dividends and undistributed profits (very little of which remained in Ireland). Secondly, as mentioned above, the proportion of capital and current expenditures being made in Ireland increased during these years.

The net foreign exchange effect disclosed in Table 5 would be augmented by any inflow of capital associated with Northgate's operations in Ireland. Over the period to 1965, Northgate

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78 Interview with Northgate Exploration Ltd. official, 1 November 1978.

79 See the notes to Table 5.
expended some C$13 million in association with the Tynagh project. (After that date capital expenditure was financed from mineral sales). Of this amount, some C$4.1 million was expended in Ireland. Thus total net foreign exchange inflow was about C$42.3 million, or 35 per cent of total gross foreign exchange inflow.

Table 5A outlines the composition of foreign exchange outflows resulting from Northgate's operations. Almost 30 per cent of the outflow consisted of distributed and undistributed profits, indicating the significance of the low tax rates applied to mining companies in determining their balance of payments impact.

Table 5A
Composition of Foreign Exchange Outflow,
Northgate Group, 1966 - 1972 (C$'000's).

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount (C$'000's)</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan Repayments</td>
<td>15,785</td>
<td>22.8</td>
</tr>
<tr>
<td>Interest Repayments</td>
<td>2,829</td>
<td>4.1</td>
</tr>
<tr>
<td>Dividends paid abroad</td>
<td>7,866</td>
<td>11.4</td>
</tr>
<tr>
<td>Undistributed Net Income*</td>
<td>12,117</td>
<td>17.5</td>
</tr>
<tr>
<td>Operating and Capital Expenditure Incurred Abroad**</td>
<td>17,171</td>
<td>24.8</td>
</tr>
<tr>
<td>Import Content of Local Expenditures</td>
<td>13,423</td>
<td>19.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>69,191</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Tables 1 and 5; Published company documents.

Notes:  
* - This figure equals the sum of net profits plus depreciation and amortization allowances, less dividends, capital expenditure, and loan repayments.

** - This figure was derived by subtracting payroll costs and local disbursements from the sum of operating, exploration and capital expenditures.

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80 Derived from Northgate Exploration Ltd., Annual Reports, 1961-1965; Published company documents.
Provision of scarce resources through the investment process

Foreign mining companies played a crucial role in providing capital for mineral exploration and development, a point discussed in detail above. They also played an important part in providing the technology and technical expertise required to apply that capital efficiently.

The clearest example of the transfer of a particular technology to Ireland involved the application of large-scale trackless underground mining methods to low-grade orebodies. This technique had been applied and perfected in Canada, and Mogul Mines Limited was the first company to attempt a similar exercise in Ireland. Though a failure financially, the Avoca project did demonstrate the feasibility of applying this mining method to Irish orebodies. It was later employed to develop the Silvermines and Tynagh underground mines.

The technology applied by foreign mining companies was apparently not inappropriate, as there is no indication that other than capital-intensive highly-mechanised mining methods could have been employed in working low-grade underground mines of the type established in Ireland.

Northgate's Tynagh mine offers an example of a situation in which availability of specific skills played a crucial role in permitting mineral development. Tynagh's ore was extremely complex. In addition to the variety of rock types involved (seven different categories were used to state ore reserves in 1971), the ore minerals were contained in a black/brown mud where sand-sized particles were bonded by fine clay-like substances, making mineral extraction very difficult. Five separate concentrates, lead, zinc, copper, bulk lead/zinc and
'lead oxide' had to be produced; specialised metallurgical skills were applied to permit efficient flotation of individual ore minerals, allowing profitable exploitation of a complex deposit.\footnote{81} Initially, much of the skilled labour utilised in mineral development was supplied by the parent companies, but most expatriates were quickly replaced by Irish personnel. For example, when Avoca Mines Limited commenced production in 1971, a high proportion of skilled manual labour and nearly all professional and managerial staff were Canadian; seven years later, only a handful of Canadians remained.\footnote{82}

**Creation of external economics**

Little or no 'spin-off' effects resulted from the transfers of skills and technologies described above. Expertise in underground mining or in metallurgy was of no relevance to other sectors of the economy. Neither was it utilised by domestic mining companies, which were exclusively involved in quarrying using open pit methods which had long been applied.

The contribution of the mining industry to infrastructural development has been modest as a result of the already highly-developed state of social and physical infrastructure in Ireland. Nevertheless, the industry has had some impact. This has in general been indirect, in that infrastructural development has been carried out and financed by state or local authorities,

\footnote{81}{For references to literature describing the problems encountered at Tynagh and the solutions adopted, see C. Burton, 'Production and Reserves of Base Metals in Ireland', *Technology Ireland*, September 1977, p. 40.}

\footnote{82}{Interview with Avoca Mines Ltd.'s Production Manager, Avoca, 9 November 1978.}
but has depended for its viability on use by mining companies. For the most part, such development has also facilitated non-mining activity.

The channel in the port of Galway was deepened in 1964 to allow export of Tynagh's ore, and the port's tonnage limit was thereby raised from 2,000 to 5,000. Docks were enlarged and new storage facilities constructed. Though the closure of Tynagh will lead to a substantial decline in traffic, Galway's port will continue in use, for example in the importation of oil products. At Foynes, on the Shannon estuary, a new jetty capable of taking ore ships up to 25,000 tons was constructed to serve the lead/zinc and barytes mines at Silvermines. Once again, this port is capable of handling non-ore cargo. In addition, its existence has enabled Foynes to take advantage of opportunities presented by oil exploration off Ireland's west coast, and six wells were drilled out of Foynes in 1978 alone.\(^83\) A new railway line was built to link Silvermines with Foynes, but it is unlikely that significant non-mine traffic utilises this section.

No information could be obtained regarding costs incurred or revenues received by public authorities in relation to provision of infrastructure.

Creation of external diseconomies

There is no indication that significant external diseconomies have been associated with mineral development in Ireland. Unemployment was high during the period under review, especially

\(^{83}\) Offshore Oil, 21 October 1978, p.31.
in the areas in which mining took place, and it is consequently unlikely that significant opportunity costs resulted from labour absorption. Little domestic capital was mobilised, but domestic investors were not denied the opportunity to become involved in the mining sector. As to whether minerals should have been conserved until Irish investors were able to grasp that opportunity, the earlier discussion indicated that the obstacles to their doing so were deep-seated and showed little sign of diminishing. Given that Ireland faced severe and immediate economic problems, the preference of policy-makers for immediate foreign-financed mineral development seems justified in economic terms; given the political imperatives facing Irish governments, it was probably inevitable.

It is unlikely that mining activity exerted a major influence on domestic income distribution. Returns to national investors do not seem to have been affected, and it is unlikely that mining's demand for labour influenced wage levels significantly, given substantial unemployment. Miners' wages were above the national average (by 37 per cent in 1973), but the numbers involved were small (0.2 per cent of the workforce) and not very 'visible' within the national economy, and so the difference is very unlikely to have exercised any 'demonstration effect' on wage levels.

Foreign-financed mining projects did contribute to the government's central aim of increasing employment and export receipts. Its contribution to employment was modest, reflecting the capital intensity of mining operations, the absence of mineral processing, and the lag in backward linkage development. There was apparently little opportunity to vary the labour
intensity of mining operations. The absence of mineral
processing was partly due to the use of smelter credits in
funding mineral development, but mainly to the inexperience of
the company involved in dealing with the European zinc cartel.
The lag in linkage development could probably have been overcome
had government adopted a more interventionist approach. It is
clear that foreign mining companies would have been responsive
to pressure to purchase goods and services locally, while
government could have ensured that local suppliers were informed
of the available opportunities.

Irish policy-makers adopted the wrong criterion in assessing
the contribution of foreign-financed mining projects to the
balance of payments. The criterion applied was that of export
receipts, rather than of net foreign exchange inflow, and
consequently the implication of low tax rates for the balance of
payments was not apparent. Had taxation rates been higher, so
would the scale of net foreign exchange inflow.

The criterion of export receipts suited Irish politicians
very well of course, for two reasons. First, it offered a more
easily definable and readily understandable measure by which
those politicians could demonstrate their 'success' to the Irish
public. Second, it obscured the true implications, from Ireland's
point of view, of the type of relationships which developed
between them and the foreign investors concerned.

Conclusion

Ireland's modern mining history had an inauspicious start,
and the failure of the Avoca development reinforced the reluctance
of Irish private investors and of Irish governments to invest in mineral exploration and development. However, conditions for such investment were fundamentally favourable, and over the period 1958-77 foreign mining companies applied their capital and expertise in establishing a thriving mining industry.

Foreign-financed mineral development helped alleviate Ireland's economic difficulties, but its contribution could have been significantly greater. That it was not was primarily due to the failure of Irish governments to capture economic rents generated by mineral exploitation. That failure resulted from the attitudes of Irish decision-makers towards foreign mining investors, attitudes which some of those investors apparently helped foster and enforce and which led decision-makers to the mistaken belief that a generous 'pay-off' was necessary if mineral exploration and development was to continue. As a result, Irish governments were denied revenue which could have been utilised to promote economic development elsewhere in the economy, while the positive impact of mining projects on the balance of payments was substantially diminished.
Chapter Three

THE NAVAN ZINC/LEAD DEVELOPMENT: A CASE STUDY OF FOREIGN INVESTOR - HOST COUNTRY RELATIONS

One of the many companies which undertook exploration in Ireland in the wake of the Tynagh discovery was Tara Exploration and Development Company Limited, a Toronto-based firm. Tara was closely linked with Northgate, having been established by the same small group of men. Over the period 1962-69, Tara undertook an extensive exploration programme, without success, but in 1970 its fortunes changed dramatically.

On 4 November 1970 Tara announced in a brief statement that it had 'encountered mineralisation...in the first drill-hole of a new prospect near Navan, Co. Meath.' As further drilling results were released, it became apparent that Tara's find was on a scale unprecedented in Ireland's mining history.

In early 1973 the Company stated proven ore reserves at 77 million tons, grading on average 11.0 per cent zinc and 2.7 per cent lead, and the orebody is still open at depth.

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1 Tara Exploration and Development Company Limited, Annual Report, 1975, p.11. All references to Annual Reports in this Chapter are to those of Tara Exploration and Development Company Limited, except where otherwise stated.

2 In other words the limits of the orebody had not been encountered when drilling ceased. Tara followed normal mining practice in not drilling up its orebody completely: drilling at depth is expensive, and serves little purpose when reserves sufficient to sustain a 25 year operation are already known to exist.
Tara had discovered what is now one of the world's largest known deposits of zinc and lead.\textsuperscript{3}

In the years after the Navan discovery, a major political debate developed concerning the position of the mining industry and its contribution to the Irish economy.\textsuperscript{4} The scale of Tara's find generated considerable public interest, and a number of political groups took advantage of this situation to demand changes in the structure of the industry. The most influential of these was the Resources Study Group (RSG), a Dublin-based organisation which succeeded in greatly increasing public awareness of the issues involved. Along with Sinn Fein (Gardiner Street), a small socialist party, and with left-wing members of the Labour party, the RSG campaigned for nationalisation without compensation of all foreign mining companies. Other political groups, while anxious to ensure continued foreign investment in the industry, demanded abolition of the twenty year tax exemption.\textsuperscript{5}

\textbf{Ireland changes its government - and its mineral policy}

When the Fianna Fáil party was defeated in the general election held on 23 February 1973, it was clear that the Fine

\textsuperscript{3} The Navan discovery represented the equivalent of an addition to total non-communist world reserves as they stood in 1971 of 9.32 per cent in zinc and 2.26 per cent in lead. F. Walsh, 'The Navan Zinc-Lead Mine', \textit{Irish Geography,} 10, p.95.


\textsuperscript{5} See Resources Study Group, op.cit., inside cover, for references to relevant statements by various groups.
Gael/Labour party coalition which replaced it would alter mineral policy in important ways. Strong pressures in this direction would certainly be generated by sections of the Labour party which, at its annual conference in 1972, had passed a resolution calling for the nationalisation without compensation of the country's mineral resources.

The newly-appointed Minister for Industry and Commerce, Mr Justin Keating, indicated that he regarded the formulation of a comprehensive policy covering the development of Ireland's natural resources as one of his most urgent tasks. He gave no specific indications as to what actions might be taken in this area, but ruled out the possibility of nationalising the mining industry, for political rather than financial or technical reasons:

I don't advocate total public control of oil and gas and mines. I do not advocate this because I am a democrat. No Irish government has a mandate to do this. I am not going to ram down the throats of the Irish people what they do not want.

As Mr Keating pointed out to the Labour party conference in 1973, whatever his personal preferences, legislation would have to be framed in such a way as to ensure the support of Fine Gael in both the Cabinet and the Dáil. For these reasons, it was essential to find a middle road 'between the two ends of the possible outcome, one end total nationalisation, the other end the previous policy of total private control'.

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6 The Irish Times, 26 September 1973.
7 The Irish Times, 15 February 1975.
8 The Irish Times, 15 October 1973.
Mr Keating's general political beliefs also gave clear indication of the policies he would pursue in relation to the mining sector.10

After a life-long involvement in the socialist movement Mr Keating was deeply committed to its ideals, but had strong views on how these should, or should not, be implemented. Perhaps most importantly, socialism had to be democratic. Thus his determination not to 'ram down the throats of the Irish people' measures which they did not want and to press only for measures on which there was a consensus within the Coalition. Keating's second basic tenet was that efficiency should be the keynote of any enterprise, public or private. A scientist by training, a farmer and veterinary surgeon by trade before his election to office, Keating had himself built up one of the finest Jersey herds in Ireland; he regarded the high standards of efficiency which he applied to his private life as indispensable in public and private enterprise if Ireland's social and economic problems were to be solved. He was appalled, for example, by the pouring of British funds into projects such as Concorde and into firms such as British Leyland. He was equally appalled by the ignorance of and lack of feeling for the business world which he perceived among the civil servants of his Department (Industry and Commerce), and described their lack of business skills as 'terrifying'.

10 The following section is based largely on an extensive interview held with Mr Keating in Dublin on 1 December 1978. Unless otherwise stated, all quotations are taken from this interview.
The public sectors of countries such as Britain and Ireland left a great deal to be desired, therefore, in terms of efficiency. On the other hand, Keating believed that private enterprise and the capitalist system within which it operated had failed to solve the urgent problems facing Ireland and the world, for example, poverty, environmental despoliation, and energy shortages. Thus there was a great need for effective planning within a democratic framework. This necessitated the active involvement of the state in key areas on the economy.

Keating saw another, and complementary, reason for direct state participation in business. He had been a member of the Irish Council of Ministers when the 'oil crisis' occurred in October 1973. The Irish government set out at this juncture to find out where Ireland's oil was coming from, and found that it could not do so. Oil was being traded among the multinationals on the high seas, and the original source was impossible to discover. In addition, the crisis called attention to the pricing policies of oil companies in Ireland. Keating believed that the ability of the Shell/British Petroleum group, for example, to avoid making a taxable profit on turnover in excess of 30 million in 1972\(^1\) was indicative of the ability of those companies to take their profits in whatever part of the world they wished. In general, he considered that private enterprise 'may have very strong reasons...for not being completely frank with the state'. Direct state involvement in commercial activity was necessary if government was to overcome its ignorance in such areas.

\(^{11}\) The Irish Times, 4 May 1975.
In Keating's words, we could monitor their costs, we would know if one of them was making huge profits because we would be plugged into the whole cost structure through our own state company.12

In addition, competition between private and public enterprises would raise the general level of efficiency in the economy; it would force the public sector 'to apply the efficiency, the standards, the methods, even the accounting of private industry to the public sector'.13 It would end the woeful ignorance of public servants concerning the business world, allowing them to monitor private enterprise effectively and to ensure that its activities furthered government planning aimed at dealing with social and economic problems.

What Keating wanted was a system within which the public and private sectors interacted constantly, adding to the efficiency of the former and the social utility of the latter. The implications of this outlook for the mining industry were clear.14 Mr Keating's aim would be to actively involve the Irish government in the industry, presumably through equity participation in existing companies and eventually through initiatives by the state on its own behalf in mineral exploration and development.15 In general, it was obvious that Keating would have very little sympathy with the laissez-faire

12 Interview, Management, December 1973, p.15.
13 ibid.
14 Only for those who wished to see them. A number of key individuals in the mining industry obviously did not. See below, p.133-4.
15 In fact in December 1973 Mr Keating went on record as indicating his intention to obtain negotiated equity holdings for the State in mining companies.
policies of his predecessors. However, it is clear from what was said above that the attitude of his Cabinet colleagues rather than Mr Keating's personal preferences would be the final determinant of mineral policy.

Throughout the summer of 1974 speculation continued as to precisely what initiatives Keating would take. It was reported that an interdepartmental committee, set up by the Fianna Fail government in 1971 to review mining taxation and royalties, particularly the twenty year tax concession, had been ordered to extend its terms of reference. Legislation recently implemented by other governments was to be examined, and a policy formulated which would take account both of Ireland's special needs and of current international trends. 16

When this committee reported, it did not recommend abolition of the twenty year exemption. A substantial minority favoured abolition, but Department of Finance representatives who dominated the committee held the opposite view, and their viewpoint prevailed. Keating rejected the committee's recommendation, as he believed that Ireland's bargaining position had improved to such a degree that it was no longer necessary to offer generous tax concessions, and because he felt that international developments had left Ireland very much out of line with other mineral producers in terms of tax concessions offered. 17

Keating undertook the 'wheeling and dealing' necessary to gain Cabinet support for his initiative, but encountered

16 The Irish Times, 14 August 1973.
17 Interview, 1 December 1978.
considerable opposition. Mr Tully, the Minister for Local Government, who had long been a champion of mining interests, opposed the measure throughout, as did a number of other ministers. Keating nevertheless succeeded in obtaining Cabinet ratification, though the final decision was far from unanimous. 18

The decision to end the twenty year tax concession was announced on 25 September 1973, before Keating had outlined any general policy on mineral development. Apart from making this decision public, the statement released by the government was vague. It stated the view that Ireland's mining industry, 'having reached its present state of development should now make a suitable and equitable contribution towards the ever-increasing cost of promoting national development'. This contribution would be obtained through the imposition of 'normal taxation' (i.e. 50 per cent of profits) 'after deducting certain allowances in respect of expenditure under such headings as exploration, prospecting, development and new plant and machinery'. It also stated that negotiations would take place with the mining companies to fix a sliding scale of royalties, but no details concerning royalty rates were given. 19

Keating's decision was met by a torrent of criticism by mining industry spokesmen, who claimed the abolition of the exemption would deter foreign investment in mineral exploration. 20

18 ibid.
19 The Irish Times, 26 September 1973.
20 The controversy which followed the ending of the twenty year exemption has been described in detail elsewhere. See C. O'Faircheallaigh, op.cit., pp.57-64.
A study which examined exploration activity in the wake of the decision has indicated that these fears were unfounded. This study (by M. O'Kelly) shows that the exploration industry, dominated until about 1970 by small mining companies and by independent 'wildcatters', thereafter attracted a higher proportion of large multinational mining concerns. From 1971 to 1977, the number of such companies on the Irish scene grew without interruption. O'Kelly concluded that Keating's initiative 'was a non-event as far as they were concerned'. In his view, stability of operating conditions and more concrete evidence of major mineral occurrences were of greater importance to such companies than were tax incentives. The Navan discovery provided the concrete evidence, and it is clear that the ending of the tax exemption was not seen as indicating instability in operating conditions in Ireland.

The circulation of the Finance (Taxation of Profits of Certain Mines) Bill, 1974, on 1 April of that year clarified the government's taxation policy. The Bill officially terminated the mining companies' exemption from income and corporation taxes. It stated, however, 'that relief [would] be provided for marginal mines which might otherwise cease to operate because of the potential tax burden'. Much of the rest of the Bill was devoted to outlining the allowances which the mining companies would be permitted to offset against taxation. Section 2 provided that all expenditure on exploration would qualify for immediate allowance, as would development costs for any mine brought into production. Section 6 provided

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for an additional special allowance of 20 per cent of all expenditure on exploration. Section 7 provided that 120 per cent of the value of all new plant and machinery could be immediately written off against taxation, while Section 8 enabled expenditure incurred through the purchase of mineral deposits to be offset against taxation over the mine life or over twenty years, if shorter.22

These provisions have two principal effects. First, they exempt from taxation profits equal to 20 per cent of a mining company's expenditure on exploration, plant and machinery. Second, they postpone tax liability for a period determined by the scale of capital expenditures and the level of profits; in this instance the loss to government is represented by the notional interest on deferred revenue.

It is not possible to predict precisely what the impact of the 1974 Act will be in particular cases, but its provisions will certainly soften the effect of the withdrawal of the tax exemption. In addition, it is evident that these provisions are being interpreted generously by the taxing authority, the Revenue Commissioners (a division of the Department of Finance), and that this will significantly increase their impact. As mentioned in the previous Chapter, an element of double depreciation was involved in Northgate Exploration Limited's application of depreciation and amortization allowances over the period 1962-77. Closer examination of its accounts showed that this practice apparently did not occur prior to 1973. In that year, the sum of allowable expenditures was C$29,312,000.

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22 Daily Debates, 1 May 1974.
substantially more than that of depreciation and amortization allowances (C$ 22,785,000). Four years later, the sum of allowable expenditures was C$31,425,000, while that of depreciation and amortization allowances had jumped to C$35,309,000. Over the period 1973-77, the provisions of the 1974 Act were clearly applied in a manner calculated to afford Northgate a significant additional measure of tax relief.

Thus the tax liability of mining companies has not increased as substantially as would first appear. This situation apparently results from decisions taken by civil servants in the Department of Finance rather than by politicians. According to Mr Keating, neither he nor his Department had any input into the form of the new legislation; the 'technicalities' of taxation provisions were regarded as purely a matter for the Department of Finance. He has also stated he knew the Revenue Commissioners, with the agreement of the Department of Finance, would draft a mild piece of legislation and interpret its provisions 'very generously'.

What explains the behaviour of the civil servants concerned, and Keating's failure to seek more stringent provisions?

As mentioned earlier, the Department of Finance opposed the termination of the twenty year tax exemption, and its officials apparently decided they would at least partly counteract its withdrawal. A request to interview the relevant officials was rejected by the Department of Finance, on the grounds that the Revenue Commissioners do not discuss

23 Derived from Table 1, and p.86, n.61.
24 Interview, 1 December 1978.
application of tax legislation to individual companies or particular sectors of industry with the public. Consequently I can only speculate as to the motives of those involved.

Two possibilities suggest themselves. First, these individuals may have continued to hold attitudes towards foreign mining companies of the type discussed in the previous Chapter, and consequently believed it was still necessary to grant tax concessions if mineral exploration and production was to be maintained. Second, Department of Finance officials may have resented Keating's intrusion into a policy area they regarded as their own preserve, and been determined to assert their authority. Both factors may well have been involved.

Keating's failure to act was apparently due to his belief that he was fortunate to have secured implementation of any taxation measure, given the depth of opposition within the Cabinet, and that attempts to obtain more stringent provisions would be fruitless.

Thus the ability of civil servants to act in the manner described above was partly due to the continued adherence of some politicians to the attitudes described earlier. It also reflected the fact that their actions were not, and are not, public knowledge in Ireland. The effect of a twenty year tax exemption is easily grasped by the layman, but that of investment and depreciation allowances and of the manner in which they are interpreted is not. In addition, relevant

25 Correspondence with the Department of Finance, September-October 1978.
26 Interview, 1 December 1978.
information is difficult to come by, as the Revenue Commissioners do not publish details of their transactions with individual companies, and since the annual reports of Canadian mining companies are not freely available in Ireland.\(^{27}\) (Most of those companies operate in Ireland through wholly-owned subsidiaries, which are private companies and therefore not required to publish their accounts under Irish law.)

One question remains. Given these comments, why was the twenty year exemption ended? It seems clear that the political imperative was important: the pressure generated by the Resources Study Group, Sinn Fein, and the left wing of the Labour party paid off, though the inability of these groups to influence decision-makers in the Department of Finance rendered their victory rather a hollow one. From Keating's point of view, the main importance of the initiative seems to have been tactical: it informed the mining industry, in the most dramatic fashion possible, that he meant business and that changes of a more significant nature were on the way.

**Bula Limited, and Irish mining legislation**

Before proceeding further, it is necessary to explain developments in the area of mineral ownership in the wake of the Navan discovery. As pointed out above (pp. 58-9) the Mineral Development Act, 1940, had provided a workable system of mineral ownership and was an essential element underlying mineral developments in the 1960s. Section 14 of

\(^{27}\) Thus it proved necessary to obtain some of the reports used in this study in Toronto.
the Act provided that

Whenever it appears to the Minister [for Industry and Commerce] that there are minerals...[which] are not being worked or are not being worked efficiently...the Minister, with the consent of the Minister for Finance, may by order...compulsorily acquire such minerals or compulsorily acquire an exclusive mining right in respect of such minerals.

Section 22 allowed the Minister to grant to any person a licence to work minerals thus acquired. In effect, these sections ensured that if and when an exploration company discovered minerals, the Minister could acquire those minerals and permit that company to work them. He was not required to do so, but by the late 1950s it was assumed that he would. This assumption underlay the whole exploration effort from 1959 onwards, as it ensured that claim-jumping would be impossible and that successful companies would enjoy their just rewards.

In December 1970, Tara Mines Limited applied for a mining lease for that portion of the Navan minerals which were in state hands. But part of the deposit was privately owned, and Tara commenced negotiations with a local farmer, Mr Wright, in order to purchase the land involved. Tara offered Wright the agricultural value of the land, around £80,000; the company felt that it was the only bidder in the field, and therefore need go no higher. It was wrong.

Wright was unwilling to sell his farm at the price offered by Tara. His plight came to the attention of Tom Roche, Vice Chairman of Cement Roadstone Limited, the largest quarrying concern in Ireland. Roche obviously made some very quick decisions based on his long years of experience in the quarrying industry, and offered Wright £500,000, plus a twenty per cent stake in the company which would hold the
mineral rights. Wright accepted, and by an agreement dated 18 March 1971 signed his farm over to Roche. On the following day, a private company, Bula Limited, was incorporated in Dublin, and ownership of the land and mineral resources was vested in it.

On 22 March 1971 it was revealed that the Minister for Industry and Commerce, Mr Lalor, had signed a compulsory acquisition order under the 1940 Act taking the minerals concerned into state ownership. This would defeat Roche’s purpose in buying the land as Lalor could simply turn the minerals over to Tara. The Minister’s order was dated 15 March, three days before Roche’s purchase was finalised, and Lalor later claimed that he had signed the order on 12 March before departing for Canada to attend St Patrick’s Day celebrations there. The Minister’s memory was apparently playing him tricks, because Roche’s solicitors were informed by the relevant authorities on the morning of 18 March that no order covering the lands concerned had then been made. In fact it would seem that Lalor failed to sign the order before leaving for Canada, and then signed a backdated copy on his return to Dublin, a procedure not permitted under Irish law. 

Bula Limited decided to contest the Ministerial order in the Courts, on the grounds that it had in fact been backdated and, more generally, that Section 14 of the 1940 Act, which allowed for compulsory acquisition of minerals, was unconstitutional in that it infringed rights of private

28 On 24 March Mr Lalor informed the Dail that he was annoyed at himself ‘for not acting more swiftly’ (Dail Debates, 24 March 1971). Like Tara, he had never considered the possibility that their might be another player in the field.
property. The implications of this latter claim were far-reaching. If upheld, it would invalidate all orders (18 altogether) previously made under the Act, and undermine the mineral exploration industry in Ireland.

Bula's case commenced in the High Court in July 1972. But before then, another important development had occurred. By March 1971, disturbed by the Bula action and anxious to develop its deposit, Tara was pressing the Department of Industry and Commerce to issue a mining lease. Department officials were loath to do this before the ownership issue was settled, wary of any other legal pitfalls which might await them. Tara brought pressure to bear on Fianna Fail politicians with whom it had contacts, and within 48 hours a dramatic change had occurred. The Minister for Industry and Commerce gave Tara a written undertaking that it would be granted a mining lease; this document was (perhaps appropriately as things turned out) dated 1 April 1971. It did not specify the terms on which the lease would be granted. Armed with this commitment, Tara began to develop that part of the orebody not in dispute.

Bula Limited won its High Court case in April 1973, and the appeal brought against this decision in the Supreme Court

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29 The relevant section of the Act is quoted on the previous page. Article 43 of the Irish Constitution, in the following terms, guarantees protection of private property: 'The State accordingly guarantees to pass no law attempting to abolish the right of private ownership or the general right to transfer, bequeath, and inherit property'. The 1940 Act seems to threaten this guarantee in no uncertain terms; it must be remembered that the Act was introduced in wartime and was meant as a piece of emergency legislation.

30 Interview with Department of Industry and Commerce official, 11 February 1976.
by the Minister for Industry and Commerce, in March 1974. The High Court ruling declared the Ministerial order invalid on the procedural grounds only, and failed to deal with the question of constitutionality, leaving the validity of the 1940 Act open to doubt. In combination with legal advice obtained by Mr Keating shortly after coming to office, this uncertainty was to impose an important constraint on government action. That advice was that if the Ministerial order of 15 March 1971 or any other order issued under the 1940 Act was upheld on procedural grounds, it could only be deemed constitutional if the original owner were compensated at the full commercial value of the ore in the ground. Thus in the Navan case, for example, the state would have to pay farmer Wright the estimated value of the nine million tons of lead/zinc ore which lay under his land before it could permit Tara to mine it. 31 The significance of this constraint will later become apparent.

Nothing had yet been revealed concerning government policy on the crucial questions of state equity participation in

31 The practice to date had been to compensate owners only to the agricultural value of the land concerned. It would be well nigh impossible, of course, to estimate the value of 'ore in the ground'. The High Court judges doubtless realised this, which may explain their failure to rule on the constitutional issue. They were able to avoid the question on that occasion because the order was invalid on procedural grounds. However, if and when a case was brought on constitutional grounds, this would not be the case.

The full implications of the Bula case were not felt in this instance, as 85 per cent of the Navan orebody was already in state hands and Tara could therefore proceed with development. Others were not so fortunate. American Smelting and Refining Company (ASARCO), for example, discovered after it had identified a lead/zinc prospect that all of the land on which it was situated had been bought by local businessmen 'a la Bula'. ASARCO abandoned this prospect altogether.
mining ventures and the level of royalties to be imposed. Both would be negotiated with the companies concerned, and discussions took place with Tara Mines Limited as early as October 1973. The Company, armed with the undertaking given on 1 April 1971, was anxious to finalise arrangements for the granting of a mining lease. Initial development work at Navan had proceeded rapidly, but major loan capital could not be raised until leasing arrangements were finalised. A further reason for haste was the rapid escalation in projected capital costs, as rates of inflation mounted both in Ireland and abroad.

The negotiations with Tara did not result in the granting of a lease. Litigation over the ownership of mineral rights at Navan was still in progress, and in fact was not closed until 4 March 1974. The Department of Industry and Commerce maintains that the delay in granting a lease to Tara was the result of this litigation, in that no lease could be issued until the questions it had raised were clarified. Tara has pointed out that all of the minerals in dispute lay north of the river Blackwater, whereas it was seeking only permission to mine on land south of the river.

Keating maintains that the delay in issuing a lease was solely due to the litigation, in that he accepted the need for caution and also in that the State's bargaining position would be stronger if it were in possession of 100 per cent of the minerals. However, the Minister certainly wished to strengthen his position in other ways, and for this he needed time.

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32 Interview with Department official, 11 February 1976.
Immediately he came to office, Keating stated his intention of making himself familiar with all aspects of the mining industry's operations. In addition, he was determined to enhance the expertise available in his Department, Industry and Commerce. Keating persuaded the then Secretary of the Department to retire early. In his place he appointed Mr Joe Holloway, formerly trade secretary with the Irish embassy in London and a person with considerable knowledge in the area of mineral resource policy. Keating strengthened the powers of the Secretary, and improved Holloway's access to himself. He also doubled the number of relevant technical personnel in the Geological Survey Office, and arranged to draw on the expertise available through the government-run Institute for Industrial Research and Standards.

Keating would have liked to do more, particularly in hiring specialists from academic life and private enterprise on a short term basis, but the Department of the Public Service vetoed this possibility. Keating had earned the ire of this Department by refusing to implement the recommendations for civil service 'reform' contained in the 'Devlin Report'. In Keating's view, this report was attempting to achieve an even more 'closed' civil service structure, whereas he believed that greater openness and interaction between the service and the academic and business worlds was required. Keating was also unpopular with the civil service establishment because he had raised Holloway to the position of Secretary above the heads of senior career civil servants within the Department of Industry and Commerce. With his emphasis on technical expertise and external recruitment, Keating was seen as a
threat by the administration-oriented career civil servants who dominate the Irish Civil Service, and on that rock many of his proposals foundered. Thus the Minister's attempts to increase Ireland's progress along the relevant 'learning curve' were hampered by factors which were quite independent of any relationship between host country authorities and the foreign investors concerned.

Other preparations also took time. In November 1973 the Coalition did not have an agreed mineral resource policy, and formulation of a policy position was essential before negotiations could commence. The interdepartmental committee which had reviewed mining taxation was then examining the wider area of general mineral policy, and was assessing measures adopted by other governments. This committee was due to report in May 1974. Its recommendations would then be submitted to the government, which would have to decide whether to accept, amend or reject them.

While these preparations were underway, Tara was getting into financial difficulties. In January 1974 an agreement was reached under which Noranda Mines Limited, a large Canadian-based mining and smelting concern arranged a C$6 million loan. In return, Noranda received five year warrants to purchase a total of 100,000 treasury shares of Tara Exploration and Development Company Limited. This agreement seemed to mark the beginning of a new stage in the involvement of foreign investors in the Irish mining industry. To that

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Keating had hoped, for example, to employ accountants and economists with experience of working in the mining industry.
time, foreign-owned mining concerns operating in Ireland (such as Northgate, Avoca Mines Limited) had been small by international standards, with their Irish operations accounting for a large part of their activities. All of those concerns carried out the actual process of mining themselves, usually through wholly-owned Irish subsidiaries. Noranda, in contrast, was a large mining concern by world standards (its assets in 1976 exceeded C$2 billion). Its activities in Ireland would represent only a small fraction of its overall operation, and it would not participate directly in the working of minerals in Ireland.

Some commentators regarded the arrival of Noranda on the Irish scene as a disturbing development, taking the view that the nature of its involvement would make it considerably more difficult for the Irish government to influence and control than companies such as Tara. From this viewpoint, the delay caused by Mr Keating's preparations might be seen as having inadvertently let the wolf in by the back door while strengthening the front door against the fox. This view was hardly valid, however, as the wolves, if wolves they were, had been hammering on the door for quite some time, and there was nothing the Minister could do to keep them out.

Since its Navan find, which had raised Tara to the status of a large mining concern by international standards, a take-over bid for the company had been expected, and in February 1974 it materialised. Cominco Limited, which holds a duopoly position in the Canadian zinc industry with Noranda, and

35 See, for example, The Irish Times, 3 September 1974.
Charter Consolidated, the London arm of the Anglo American Corporation of South Africa Limited, made a bid which valued Tara at C$162 million. Tara's management, determined to retain control of the company, rejected the offer. In so doing, Hughes, McCarthy and Gilroy turned down a tax-free capital gain to themselves estimated at C$25 million. They fought a tenacious battle against the take-over bid, but the need to issue shares to raise initial development capital had seriously weakened their hold on Tara, and they were forced to seek Noranda's assistance. Noranda responded and the bid was fought off, but in return for its help it received an option to purchase a controlling interest in Tara at a later date, an option it exercised in March 1978.

From Ireland's point of view, what was most disturbing about these events was the total incapacity of any Irish agency to influence the outcome of a battle for control of the country's most valuable single natural resource. On 18 February, the government stated publicly that there was no action it could take, as the company involved was under Canadian jurisdiction. In consequence Keating, who was anxious to intervene and prevent the take-over, was unable to do so.

The Bula Agreement

By July 1974, negotiations were underway between the

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36 Interview with Tara official, 1 December 1978.
37 The Irish Times, 14 November 1975, 2 March 1978.
38 Interview, 1 December 1978.
Department of Industry and Commerce and Bula Limited concerning the development of Bula's section of the Navan orebody. These negotiations seem to have proceeded smoothly and rapidly. Keating was well disposed towards Bula, a wholly Irish-owned company, and the Bula directors, having pulled off a coup of impressive magnitude, were doubtless prepared to accommodate the Minister's wishes. At the end of July agreement had been reached between the two parties. The text of the Agreement, entitled *Bula Limited - Inter-Party Agreement*, was later released by the Department of Industry and Commerce.

The financial provisions were as follows. Corporation tax would apply at the standard rate (50 per cent), but as Bula's minerals were in private ownership no royalties would be charged. Bula Limited would hand over to the State, free of charge, 25 per cent of its equity (Article 2.02). In addition, the company would sell to the Minister a further 24 per cent of its shares, at a price fixed by independent consultants (Articles 2.01, 3.01(a)). The purchased shares would not, however, have voting rights (Article 9.01(a)). The Minister would appoint two out of the company's seven directors (Article 4.05). Article 8.04 provided that Bula Limited would 'distribute by way of dividend the entire profits of such financial year as shown in the audited accounts of the Company remaining after taxation applicable thereto'. This requirement would not apply where limits on dividend payments were contained in loan agreements or where its auditors advised the Company that its commitments made dividend payments inadvisable.
A large part of the Agreement was concerned with safeguarding the state's interests, mainly by prohibiting non-commercial practices by the operating company. Other parts of the Agreement dealt with operational aspects of the Navan development. Article 8.05 provided that if and when a zinc refinery was established in Ireland, Bula would supply concentrates to it 'on normal and reasonable commercial terms'. Bula was guaranteed an equity stake in any smelting venture, in proportion to the percentage of smelter supplies provided by the company, but would not be compelled to take up this equity (Article 9.07(a)).

Considerable emphasis was placed on ensuring Ministerial access to corporate information. Articles 6.01 and 8.07 called in general terms for the Company to supply full information on its business activities, and to give the Minister access to its 'properties, books and records'. Article 9.02 required that the Minister be provided annually with full details of the ownership of Bula Limited's shares.

In theory, the State 'take' under these arrangements would amount to almost 75 per cent of profits. However, 12 per cent of this would be accounted for by dividends from shares purchased at their full commercial value. In addition, the provisions of the Finance (Taxation of Profits of Certain Mines) Act 1974 would ensure that the 'free' State 'take' of 62½ per cent would in practice be significantly below that figure.

For example, Article 8.03 prohibited the payment to employees or contractors of any amounts in excess of the value of work done, Article 8.03(d) prohibited the sale by Bula of any of its products 'at less than a fair commercial price', while Article 5.15 demanded that adequate provision be made for depreciation.
On the other hand, Keating had ensured inclusion of provisions designed to further his overall strategy, outlined above (see pp. 109-11). It will be remembered that Keating's major priorities were to ensure direct state involvement in productive enterprises, to educate civil servants in the skills practiced by private enterprise, and to ensure effective government monitoring of private businesses. A State shareholding of 49 per cent in Bula represented a significant step towards the first object, though a far cry, of course, from the ultimate aim of a state-owned independent mining company. The nomination to Bula's Board of Directors of two civil servants (one from Industry and Commerce, and one from the Geological Survey Office, as it turned out) was a step towards development of the required skills in the civil service. Their presence on the Board, and the access to information guaranteed under the Agreement, would ensure that Bula's activities could be closely monitored. From this point of view, the Bula Agreement was a significant triumph for Keating.

Given the importance Keating attached to exerting influence over the Company, the inclusion of a clause denying the Minister voting rights over the purchased shares seems puzzling. Keating has stated that, during negotiations, Bula expressed considerable concern at the prospect of the State holding 49 per cent of its voting rights. Bula felt that a change in company law, or the purchase by the state of one per cent of its equity, could leave the Minister in control. Since this was certainly not the stated purpose of government participation, the Company asked Keating to surrender the voting rights over
24 per cent of his holding.

Keating saw the force of this argument. He was concerned primarily with acquisition of expertise and knowledge, and with fostering interaction between the public and private sectors. Control over the purchased shares was not necessary for the former and might interfere with the latter if it aroused suspicion of state involvement in the private sector. Thus he granted Bula's request, in return for concessions on another area of the agreement.40

Following the agreement with Bula, and given that Tara had long been impatient to commence mining at Navan, it was expected that the Minister's negotiations with the company would rapidly reach a satisfactory conclusion. In fact, the two parties were to fight a protracted battle before arrangements for the granting of a mining lease were made.

The negotiation of the Tara Agreement

By 8 July 1974, serious negotiations were under way between the government and Tara. On that day, Mr Keating outlined his proposals to the company's representatives. These were similar to the terms accepted by Bula, with an important exception. Since the bulk of Tara's minerals were state-owned, the Minister proposed to impose a royalty of 10 per cent. The total state 'take' under such an arrangement would be 77.05 per cent.

Mr Keating also sought non-financial terms of the type agreed with Bula, providing for disclosure of information,

40 Interview, 1 December 1978.
appointment of government-nominated directors, and the diversion of concentrates to an Irish smelter.

At this stage, Tara's position was very far from the Minister's. The single most important issue from its point of view was state participation. The company claims that on 8 July it was prepared to accept a state 'take' of 64 per cent of profits, but admits privately that it was opposed in principle to equity participation by the Minister.\textsuperscript{41} This is in contrast to its public statements at the time, which claimed that the issues at stake were the price to be paid for the 24 per cent of shares to be purchased, and the overall level of government revenue.\textsuperscript{42} To understand the company's stand on the issue of state participation, it is necessary to look more closely at the character of its senior management, which remained unchanged in composition after the Noranda take-over.

Hughes and his associates were unusual in the mining industry in that they both managed Tara and were also heavily involved in the ownership of the company. This circumstance gave Tara's senior management an involvement in the company's affairs which was unusually personal and deep. They felt very strongly about recent developments in the Irish mining industry, and liked little of what they saw. For example, Hughes had been shocked and angry at the termination of the twenty year tax exemption in 1973. Change was doubly hard to accept in that for many years the Fianna Fáil party had

\textsuperscript{41} Interview with Tara official, 1 November 1978.

\textsuperscript{42} \textit{The Irish Times}, 28 August 1974; interview with Tara Mines Limited Public Relations Officer, 12 February 1976.
seen its interests and those of the mining companies as synonymous. The blame for the industry's changed circumstances was attached in large measure to the activists of the Resources Study Group and other organisations, who marched the streets of Dublin demanding a higher public return from mining activities. As far as Hughes and his associates were concerned, it was their sweat and their money which had built up the mining industry in Ireland, yet now those people who had put nothing into the industry were demanding their (Hughes and company's) hard-earned profits.  

In this scheme of things Keating seemed to represent all that was undesirable to a miner or a businessman. Not content with taking profits, Keating wanted to control part of the company, appoint directors to the Board, and dig out information from company files and records. To individualistic entrepreneurs who had fought hard and denied themselves a personal fortune to prevent a private competitor from gaining control of Tara, the idea of state influence on such a scale was anathema. Hughes and his associates would fight long and hard to deny Keating his ambition. 

Tara's management obviously did not realise that Keating's commitment to state participation was as strong and as deeply felt as their own opposition to it. They believed he was responding to popular political pressure in demanding equity participation, to a nationalist sentiment which wanted Ireland to 'own' part of its largest single natural resource, and that his refusal to abandon his demand was

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43 Interview with Tara official, 1 November 1978.
designed deliberately to provoke the company.\textsuperscript{44} In fact, Keating had to overcome considerable political opposition within the government before his policies were accepted, and the concept of state involvement in the private sector was an integral part of his whole political philosophy. There was another, more immediate reason why he would fight hard to obtain state participation in Tara.

On coming to office and reading the files on the Navan situation, Keating had concluded that the mining area was a 'shambles', and would stay that way until workable legislation on mineral ownership could be devised. He was still concerned, of course, with making the best of a bad lot, but believed that a much more rewarding field lay in the area of offshore oil. In 1971, a significant discovery of natural gas was made off Ireland's south coast. This had spurred interest in the country's offshore resources, and by 1974 a large number of multinational oil companies were anxious to commence exploration. Keating had promised to release the terms under which exploration would be permitted by early 1975. Knowing that the oil companies would be watching his negotiations with Tara closely, he was determined to be seen as a tough bargainer. The government planned to demand a free equity holding of 25 per cent in any commercial oil finds made, and Keating felt that if Tara did not accept such a condition the oil majors

\textsuperscript{44} Interview with Tara official, 1 November 1978.
certainly would not.\textsuperscript{45}

Given these attitudes and perceptions, a head-on encounter between the Irish government and Tara was almost inevitable.

After 8 July, a total of seven meetings was held between the Company and officials of the Department of Industry and Commerce, without result. On 16 August, the government and Tara clashed in dramatic fashion. The company announced it was closing down operations at Navan, and that it had issued a writ against the Minister of Industry and Commerce, suing for a mining lease and for damages for losses caused by the delay in granting it. The writ issued by Tara asked for a court ruling ordering the Minister to grant a licence on 'reasonable terms', which it claimed it was entitled to as a result of the undertaking given by Mr Lalor, the then Minister for Industry and Commerce, in April 1971. It also asked for a ruling that the Minister would be going beyond his powers in demanding state participation as a condition of granting a mining lease.\textsuperscript{46}

Tara claims that Keating put forward his position on 8 July as non-negotiable, that it therefore felt that further discussions were futile, and that drastic action had to be

\textsuperscript{45} In dealing with the wider context of negotiations between international corporations and host governments, A. Kapoor has noted that governments frequently attempt to set precedents which may eventually lead to the achievement of particular policy aims, even if they are required to make concessions in other areas at that particular point in time. See A. Kapoor, 'International Business - Government Negotiations in Developing Countries', in A. Kapoor and P.D. Grub, (eds), \textit{The Multinational Enterprise in Transition}, The Darwin Press, New Jersey, 1973, pp.367-83.

\textsuperscript{46} \textit{The Irish Times}, 24 August 1974.
taken to protect its shareholders' interests. Tara apparently took Keating at his word, but why? A company official told me that they believed, 'on previous experience', that Keating meant what he said. Keating admits that he put his demands forward as 'final' on 8 July, but claims that all negotiators, whether in the boardroom or the market-place, present their initial offer as 'final'. It is certainly clear that Keating took a tough stand at the early negotiating sessions. However, it does seem strange that Tara did not consider the possibility that he was engaging in a bargaining ploy. State negotiators almost inevitably start off the bargaining process by adopting an extreme position, presenting this as their 'final offer' in order to seem intimidating.

It may be that Tara's personnel had such a jaundiced view of Keating as to expect him to prove an exception to the rule and that their response was based more on pre-conception than

47 Interview with Tara Mines Limited PRO, 12 February 1976; interview with Tara official, 1 November 1978. If Tara believed that there was little point in further negotiation, the question arises as to why it attended seven negotiating sessions between 8 July and the mine closure. It may be that Tara was anxious to present itself as the 'reasonable' party, willing and anxious to compromise and was therefore reluctant to break off negotiations after the first meeting.

48 Interview, 1 December 1978.

49 This was confirmed in interviews held with civil servants who either took part in the negotiations or who were involved in 'back-up' work.

50 For example, Litvak and Maule have described how the Guyanese government, in bargaining with foreign bauxite-mining companies, put forward its initial position as 'non-negotiable' when it was in fact willing to compromise on major issues. See I.A. Litvak and G.J. Maule, 'Forced Divestment in the Caribbean', International Journal, Vol.XXXII, No.3, Summer 1977, p.505.
on 'previous experience'. Whatever the reason, it is apparent that Tara was convinced that Keating would maintain his intransigent position. Tara also believed that this intransigence would not be limited to the question of state participation, but would extend to the overall share of profits which Keating was demanding for the state. This is illustrated by the fact that when the company was considering the closure strategy its officials set out to balance the likely financial costs of closure against the financial concessions they expected it to force from Keating. That such an exercise was carried out points once again to the tremendous importance of the way in which one party in a bargaining process perceives the other. Because if Tara wrongly convinced itself that Keating could not be bargained down on the financial arrangements in the normal process of negotiation, then the figures might show the adoption of a 'closure strategy' to be economically rational, and the figures might be terribly wrong.

Persuaded of the Minister's intransigence, Tara's management decided to 'go to the Irish government full belt', to hit Keating as hard as possible and where it was least expected. Thus, the strategy of mine closure and legal action was devised. It was felt that this strategy would hit the

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51 Interview with Tara official, 25 November 1978. The figures which Tara used in this exercise apparently left little doubt as to the economic rationality of a 'closure strategy'.

52 I do not want to exaggerate the degree of confidence or certainty with which Tara adopted this course of action. In fact its officials had doubts (and still do) as to whether the decision they took was the correct one. But the important point is that given Tara's assumptions a 'closure strategy' was the only course of action which seemed economically rational to the company.
government particularly hard for two reasons. First, considerable 
pressure for a settlement would be generated by the laying 
off of 500 workers. Tara expected a hostile public reaction 
to this move, but was unconcerned, believing that, as time 
got on, the onus would shift to Keating, who could be presented 
as the cause of the delay, and that he would be forced to 
compromise.

Secondly, it believed that the Irish government had a great 
deal more at stake as a result of Tara's litigation than Tara 
ith itself did, in other words, that the government simply could 
not afford to lose the case, and would therefore accept a 
compromise rather than see litigation through to the finish. 
Behind this belief lay the element in Tara's writ which called 
for payment of an unspecified sum of between £20 - £50 million 
in compensation for the delay caused in granting the mining 
lease. Tara's officials remembered Avoca, where the loss of 
public moneys to the tune of £2.5 million had created such a 
reaction that it would be almost twenty years before an Irish 
Minister again contemplated state involvement in a mining 
concern. They believed that if Keating lost £20 - £50 million 
the Fine Gael/Labour party Coalition would be destroyed as a 
political force for an equally long period. They were also 
convinced that Keating's colleagues would take a similar 
view and, realising how much they had to lose, would put 
pressure on him to compromise. Tara knew that a number of 
Ministers and also certain Fine Gael backbenchers were uneasy 
at Keating's treatment of the mining companies. The Coalition 
was under strain as a result of this and other issues, and Tara 
believed that the pressure exerted by this strategy would break the
government before it broke the company itself. This, as we shall see, was an absolutely crucial judgment.

Tara also believed that its strategy would have tactical value as it would involve the company in action of a type least expected of it. Tara would do precisely what private corporations in such a bargaining situation are not supposed to do - take on a sovereign government in open conflict. The company's officials believed that restraints imposed on government action by the nature of the Irish Constitution would prevent any retaliation against it, and consequently that Tara would emerge victorious from this conflict. The nature of those restraints is examined in detail below.

Keating felt that Tara's strategy reflected strong pressure exercised in Tara's boardroom by Noranda. He believed that Noranda, in common with many Canadian mining companies, hated the idea of state participation and did not want government representatives on their boards or guaranteed state access to corporate information. He was convinced that, given a certain amount of secrecy, such companies could utilise accounting procedures and other methods to remove surpluses from host countries, despite having conceded generous financial terms in negotiations. Keating feels that this pressure led Tara, which should have realised that he couldn't budge on the issue of state participation, to pursue an irrational strategy, thereby doing itself considerable harm in the longer term. This belief may have led the Minister to adopt a more

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53 Interview with Tara official, 1 November 1978.
54 Interview, 1 December 1978.
entrenched position after the mine closure occurred.

Two points must be made here. First, whether Keating's assessment of Noranda's position was correct or not, it is certain that Tara's management needed no encouragement to fight state participation tooth and nail. If its strategy was irrational, then this reflected the attitudes of the company's own staff. The second point is that, as mentioned above, Tara did not realise the importance of the participation issue to Keating. Obviously, a negotiator should never take it for granted that his opponent sees his point of view.

Rational or not, the strategy was implemented. On Monday 19 August, Tara Mines Limited instructed contractors on its Navan site to wind up their operations by the following Friday. The government took the view that Tara was engaging in blackmail, and gave its full support to Keating in saying that as a result of the closure Tara would have to take the initiative if talks were to reopen. The company duly approached the Minister, and meetings were held on 27 and 28 August. But little common ground existed between the two parties, and when the second meeting broke up, no date was arranged for further negotiations.

On 30 August Mr Keating delivered a forceful speech which was interpreted by the press as threatening Tara with nationalisation if it did not come to an agreement. Given

\[55\] See, for example, The Irish Times, 31 August 1974. The relevant passage was "any attribution of the decision to suspend activities at the Navan mine to the lease terms which were offered must be looked upon by the Minister as nothing more than an attempt to force him to grant a lease to Tara on terms unacceptable to the government. The Minister will not bow to such pressure and must remain free...to safeguard the interests of the people as a whole....The Minister is now considering as a matter of urgency what further action can be taken to protect [those] interests."
what was said above regarding Keating's attitude to nationalisation (see p.108), it is unlikely that this option was seriously considered. In any case, Tara's legal advice was that nationalisation would be unconstitutional, whether compensation was paid or not. The Minister may have received a similar opinion; certainly, as mentioned above, he had been advised that compensation would have to be paid at the full commercial value of the deposit. An alternative course of action might have been to offer a mining lease to Tara on the government's terms (thus fulfilling the obligation arising from the undertaking given on 1 April 1971), and, if the company rejected those terms, to offer the lease to some other mining concern. A host of difficulties would have arisen as a result, however. First, Keating's legal advice was that the obligation was to offer a lease on 'reasonable' terms, and clearly Tara could have initiated endless litigation as to what constituted, or what did not constitute, 'reasonable'. Secondly, Tara could have sued the Minister for compensation in lieu of its investment in the Navan mine, thereby placing him in an extremely awkward situation politically. (Once again the spectre of Avoca raised its head!) Thirdly, the Minister would have had to compulsorily acquire that portion of the Navan deposit privately held by Tara. As noted earlier, the constitutionality of the 1940 Minerals Development Act under which the Minister would make such an acquisition was by

56 Interview with Tara official, 25 November 1978.

57 Tara's part of the orebody has been described as 'a brack, with minerals in private ownership forming the currants'.
then in question, and Tara would certainly have gone to court on this issue had Keating attempted to obtain its minerals.

Thus Tara's judgment was proved correct in one sense. Keating was enmeshed in the legal and judicial constraints of the Irish constitutional system, and he in fact took the only course of action open to him - he sat back and did nothing.

By December, the Minister had countered Tara's legal moves by himself asking for a High Court ruling on certain questions of law pertaining to Tara's writ. Keating's principal motive in initiating this litigation seems to have been to defer the hearing of Tara's case: as will become apparent, he had come to believe that the longer the Navan mine stayed closed, the better his bargaining position would become.

Clearly, the Irish legal system could work for as well as against him.

By this stage, Tara's position was weakening. In earlier years, assured of the Fianna Fail government's co-operation, Tara had spent freely on the Navan development. Tara's belief in its power to influence Irish decision-makers had backfired, because by late 1974 the company was deep in debt and going deeper with every month that passed. It therefore needed to reach an agreement very badly indeed. Apparently Tara's management had made a fundamental miscalculation in believing that the Coalition government would break before the company did.

Keating claims that in late January 1975 Tara came to him and agreed to compromise on the issue of state participation. Tara's viewpoint is of course different, and its officials

58 Interview, 1 December 1978.
emphasise that Keating made important departures from his earlier position. This was in fact the case, and reflected the Minister's own weaknesses.

The most significant of these was probably the lack of support for his position among members of his own Labour party in Cabinet. This lack of support had, with the exception of one individual, nothing to do with the policy issues involved. Keating was constantly at loggerheads with the Minister for Posts and Telegraphs, Connor Cruise O'Brien, who opposed every major initiative undertaken by Keating. O'Brien had known Keating from childhood, and according to the latter O'Brien had always had, and still did have, a personal dislike for him. In addition, Keating had clashed head on with O'Brien on government policy towards civil rights in the face of threats to law and order posed by the Irish Republican Army (IRA) campaign in Northern Ireland. O'Brien was in favour of curtailing civil rights to deal with the threat, Keating felt that such a policy was exactly what the IRA wished to see and that it would play straight into the IRA's hands.

Interview, 1 December 1978.

59 O'Brien was in favour of curtailing civil rights to deal with the threat, Keating felt that such a policy was exactly what the IRA wished to see and that it would play straight into the IRA's hands.

60 Interview, 1 December 1978.
represented a tremendous weakness from Keating's point of view, as he felt there could be no secrecy from Tara regarding any matter which had to go before Cabinet. Keating would not, for example, have his minimum acceptable position endorsed by Cabinet, as he believed Tara would learn of it, placing the company in a very strong bargaining position.

As we have seen, another major constraint facing Keating arose from the nature of the Irish Constitution and the weaknesses inherent in the 1940 Minerals Development Act. In effect, Keating could not pose nationalisation even as an ultimate sanction, a situation different from that of most host country governments. Neither could he take compulsory acquisition measures, because of the political restraint represented by the need to pay very large sums in compensation. In combination, these constraints meant that if Tara did not work the Navan mine, nobody would. And while Keating might be able to achieve delays, he could not hold up a development on the scale of that mine indefinitely.

Both parties were therefore in weakening positions, and it was likely that a compromise would be reached. A few days before the Supreme Court was to give its ruling on the Minister's writ, it was announced that an agreement had been concluded between Tara and the Irish government.

The Tara Agreement

The terms of the arrangement, contained in two documents, an Agreement and a Mining Lease, were as follows. The State would receive, free of charge, 25 per cent of the shares of Tara Mines Limited, the operating company, but there would be
no purchase of shares as there had been in the case of Bula Limited. Royalties would be charged on pre-tax profits at a rate of 4½ per cent (Mining Lease, p.16), and profits would be subject to corporation tax (then 50 per cent) after deduction of royalty payments, exploration expenditure, and allowances permitted under the Finance (Taxation of Profits of Certain Mines) Act 1974. Tara would turn over to the state, free of charge, that portion of the Navan minerals (about 6 million tons ore) in its possession (Agreement, B). As in the Bula Agreement, a provision regarding the payment of dividends was included, though its terms were less stringent: not less than 50 per cent of the accumulated balance on the Profit and Loss Account would be distributed in each year. It was left to the discretion of the Minister, rather than to the company's auditors (as in Bula's case) to determine circumstances in which it would not be advisable to so distribute profits (Mining Lease, p.17).

The Minister would appoint two directors to the Tara Mines Limited Board, or 25 per cent of its members, whichever is greater (Agreement, 3.03). As in the Bula Agreement, clauses were inserted guaranteeing Ministerial access to Tara Mines Limited's 'property, books, and records', and also requiring the company to provide such 'additional financial and operating data and other information as to the business and properties of the Company as the Minister may from time to time request' (Agreement, 6.06: Mining Lease, p.5). These requirements apply to the operating company only, and the Minister will have no guarantee of access to information relating to or held by the parent company, Tara Exploration and Development
Company Limited.

As in Bula's case, Tara agreed to supply concentrates to an Irish zinc refinery 'on reasonable terms', if requested to do so. Tara would be offered an equity holding in any such refinery, but would not be compelled to take it up.

The overall State 'take' under these arrangements will stand at a nominal rate of 64 per cent. Because of the operation of the 1974 Act, the real level of State revenue will be significantly lower.

Tara's senior management did not accept the new situation with good grace. By March 1978, it was believed that Hughes, McCarthy, and Gilroy had almost completely liquidated their personal shareholdings in Tara. Hughes resigned from the Tara Mines Limited Board before the government-appointed directors took up their positions. 61

The conduct and outcome of negotiations

Two interlocked but separate issues were at stake in the negotiations between Tara and the Irish authorities. The first involved the percentage of Tara's profits which would accrue to the Irish government, the second related to the degree to which that government would participate in, and exercise influence or control over, Tara's corporate decision-making process. These issues were interrelated for two reasons. First, the Irish government saw equity participation in the operating company as a means of exercising influence and/or control, but such participation would of course increase the

proportion of Tara's profits accruing as government revenue. Secondly, Keating believed that the Irish Exchequer would suffer financial loss in the longer term if a measure of control were not obtained.

Mr Keating achieved his principal objective by obtaining a 25 per cent equity participation in Tara Mines Limited. In addition, he gained acceptance of government-appointed directors on the company's Board, and of guaranteed Ministerial access to Tara Mines Limited's records and files. However, he gained no such privileges in relation to the parent company. Tara officials saw this as an important concession to the company, but the practical significance of the distinction appears to be limited. The Minister might be prevented from obtaining relevant corporate information, but as all payments of profits, royalties and dividends will be assessed on the income of Tara Mines Limited, and as significant transfers of goods and services do not occur between Tara Mines Limited and its parent, this limitation is unlikely to have important financial implications for Ireland.

The Tara Agreement also gave the Irish government considerable influence over the distribution and use of corporate funds, as a result of the provisions which demand payment of dividends at a certain level and allow the Minister discretion in determining when dividends should not be paid. In this regard, the position of Tara Mines Limited will be

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62 Interview with Tara official, 1 November 1978.
63 Tara Mines Ltd's output is sold to independent smelters while its parent does not produce, or supply it with, mining inputs.
quite different from that of Northgate Exploration Limited's Irish subsidiary, IBM. IBM's use of funds was entirely at the discretion of Northgate's Board of Directors, located in Toronto. Tara's parent company will of course be free of government influence in this area. In other words, while the investing company remains free to use the funds it receives as it wishes, the Minister can play a significant role in determining the extent of these funds at any given time.

The Irish government made important concessions in the area of financial returns to the state. First it yielded on the issue of a purchased shareholding. From the Minister's point of view, this was a financial concession, though Tara viewed it as a diminution of potential Ministerial control over the company. If, as seems certain, Keating would have agreed to forego the voting rights of the purchased shares, as he did in Bula's case, the concession does seem essentially financial.\textsuperscript{64}

The Minister made another important concession by reducing the royalty rate from 10 per cent (the figure he originally sought) to 4½ per cent. Department of Industry and Commerce officials have claimed that this reduction was a trade-off against Tara's granting to the State its mineral rights at Navan. Royalties could not, of course, have been charged on those minerals while they remained in private ownership.

\textsuperscript{64} It is impossible to express this concession in monetary terms, as one cannot predict what Tara's profit margins will be. If metal prices are high they will probably be substantial, as will, therefore, the dividends payable on 24 per cent of the company's equity.
However the mineral rights involved related to only 6 million tons of ore, and a simple numerical calculation will quickly show that the Minister was very much the loser by this bargain.

Turning to the conduct of negotiations, a number of points emerge. First, the perceptions of the parties involved of one another played a central role in shaping events. Tara was convinced that Keating would not compromise on the issue of financial returns to the State, and partly in consequence it adopted an aggressive strategy designed to force his hand. Keating eventually made substantial financial concessions, but claims that Tara could have won them without confrontation. It is apparent that, had Tara based its approach on the experience of international mining companies in other countries, it would not have accepted Keating’s intransigent attitude in the early negotiating sessions at its face value.

On his part, Keating mistakenly took for granted that Tara understood the political imperatives, ideological and practical, which led him to stand fast on the issue of state participation. In consequence, the Minister misinterpreted Tara’s reaction to his stand, attributing that reaction to pressure exercised by Tara’s foreign owners. This lack of

65 If a unit value of 1 be set on the profit-generating potential of each ton of ore, then the return to the Minister from charging 10 per cent royalties on that ore to which he held mineral rights can be compared to the return he will receive from charging a rate of 4½ per cent on the whole of Tara’s section of the deposit.

Rate A: 10% royalties on 61.2 million tons - 6,120,000 units
Rate B: 4½% royalties on 67.2 million tons - 2,799,000 units
Loss by charging rate B rather than rate A - 3,321,000 units

The scale of the Minister’s concession here is clear. Once again it is impossible to express it in monetary terms, as there is no way of judging what the profit-generating potential of ore in the ground actually is.
understanding of both sides led to the adoption of entrenched positions, an outcome which imposed costs on all involved.

A second point is that Tara apparently made an error of judgment in deciding that it could successfully 'take on' the Irish government. Certainly the legal and political constraints arising from provisions of the Irish Constitution protected the company from retaliation, but Tara underestimated the cohesion of the Coalition government and Keating's ability to 'sit tight' while pressures mounted on the company. Those pressures did mount, and eventually forced Tara to compromise. A number of commentators have noted that, as a general rule, private corporations operate under much tighter time constraints than do government agencies. Tara ignored this rule, or at least believed that it could prove an exception to it, and the company suffered as a result. It is uncertain how much the closure actually cost Tara. However, given that inflation in Ireland was then running at an annual rate in excess of 20 per cent and that interest charges on existing loans would have been substantial, the cost was certainly higher.

Thirdly, Keating introduced an extraneous factor into the bargaining situation with Tara. The Minister was prepared to make financial concessions to the company in order to establish principles which would be applied to off-shore oil operators. These concessions would be made good if and when oil was discovered. It seems probable that the Minister could have secured a higher financial return to the State from the Navan development had he been prepared to make concessions in the

66 See, for example, A. Kapoor, op. cit., p.375.
area of state participation. The question arises whether he should not have attempted to obtain as high a return as possible from minerals known to exist, rather than concern himself with hypothetical oil discoveries. Only time will tell whether his decision was justified.67

Fourthly, the Irish government's 'objective' bargaining power was not fully mobilised or utilised, but in general this did not result from any pay-offs to or trade-offs with foreign investors. The following factors were responsible.

1) The relevant technical and financial expertise could not be fully developed because of institutional and bureaucratic constraints. 2) The Irish Constitutional framework imposed limitations on government action. The Irish authorities did not believe that it was desirable or possible to change that framework because they perceived in the Irish electorate (and themselves felt) an adherence to certain norms, the most significant of which involved a belief in the 'sanctity' of private property. Those norms existed quite independently of any relationships between foreign investors and domestic political groupings. 3) The position of the relevant government Minister was undermined by his party colleagues for reasons which in general were unconnected to any relationship between themselves and the foreign investors concerned.

Conclusion

The discovery of the Navan deposit lead to a considerable

67 To date, no commercial oil wells have been discovered off the Irish coastline.
increase in public awareness of issues relating to foreign mining investment, particularly the twenty year tax exemption. Political pressure was mobilised for its withdrawal, with apparent success. However some politicians and the civil servants responsible for taxation policy apparently continued to believe that a substantial 'pay-off' was required to foreign investors if mineral exploration and development were to proceed, and the latter effected such a 'pay-off' by implementing provisions which in practice afford a substantial measure of tax relief to foreign mining companies. The complexity of these provisions and the secret nature of the bureaucratic processes involved in their interpretation militate against public awareness that a 'pay-off' is being made, and diminish the possibility that political pressure will be generated for its termination.

Negotiations concerning terms for the development of the Navan deposit were dominated by the issue of state participation in the operating company. The central issue was influence and control over the corporate decision-making process, and both parties were willing to accept a lower level of financial returns if they could thereby achieve their respective aims in this regard. The issue of state participation left little room for compromise and this, combined with mutual misperceptions by the negotiating parties, largely explains the conflictual nature of host country-foreign investor relations.

Legal and constitutional factors played a crucial role in determining the course of negotiations. They allowed Tara to take action which threatened to undermine mineral
exploration in Ireland and place the government in a politically dangerous position, while they also protected the Company from retaliation. This clearly weakened the government's bargaining position, which was also undermined by other political and bureaucratic processes generally unconnected to the host country-foreign investor relationship.

Tara however overestimated the strength of its position, and in particular miscalculated on the government's ability to delay an outcome and thus force the Company to compromise.

The government achieved its aim of ensuring state equity participation in the Navan development, but at some sacrifice in financial terms. The persistence of attitudes favourable to the interests of foreign investors among Irish civil servants and some politicians will probably further diminish the revenue which Ireland will receive from exploitation of the Navan deposit.
Chapter Four

FOREIGN INVESTMENT AND THE ZAMBIAN COPPER INDUSTRY,
1964-70

Historical introduction

In 1891 the British government granted control of an indeterminate region north of the Zambezi river to the British South Africa Company (BSAC), formed two years earlier by Cecil Rhodes. The territorial limits of the grant were subsequently fixed (with little reference to existing linguistic or tribal boundaries) by Britain, Germany, Portugal and Belgium; this area, which later became Zambia, was then inhabited by some 100 distinct tribal groups, and covered 285,000 land-locked square miles of the Central African Plateau.\(^1\) It was governed (as Northern Rhodesia) by the BSAC itself until 1924, when the British Colonial Office assumed administrative control. A legislative council was then created; because Northern Rhodesia's electoral laws disenfranchised Africans,\(^2\) it was dominated by representatives of the white settler community. Though the Colonial Office was officially responsible for the administration of Northern Rhodesia, the legislative council exercised a major impact on government policy.

The BSAC's interest in the country derived from its potential mineral wealth. The Company encouraged prospecting

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\(^1\) Zambia is bordered by Angola, Zaire, Tanzania, Mozambique, Zimbabwe, and the Caprivi Strip of Namibia.

\(^2\) In 1957, for example, 86,000 Europeans and only 1,700 Africans were registered as voters.
by pioneer firms and individuals, but the results were disappointing. In 1923 it decided to grant exclusive prospecting rights over extensive areas to large companies. Many of the groups which obtained rights were interlocked in a complex web of mutual or shared ownership, at the centre of which stood the Anglo American Corporation of South Africa (AAC), and the US-based Selection Trust. Both controlled a number of concession companies, and by the late 1920s they dominated mineral exploration in Northern Rhodesia. Only corporations of this size, closely linked with the international financial and mining communities, had access to the large amounts of risk capital and the technical expertise required to mount a systematic exploration effort. That effort was spectacularly successful, revealing the existence of a number of massive sulphide copper deposits within an area 90 miles long by 30 miles wide, known since as the Copperbelt.

These orebodies were developed by foreign capital and imported skilled labour. The first of the large mines opened in 1931, and others quickly followed. Expansion continued during the 1940s and 1950s in response to increases in the

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3 Copper deposits were located below sites which had earlier been mined by Africans, but ore grades were considerably lower than in neighbouring Katanga and the ores were oxidised, making smelting difficult.

4 The complexities of corporate ownership have been disentangled by F.L. Coleman, *The Northern Rhodesia Copperbelt, 1899-1962: Technological Development up to the end of the Central African Federation* (Manchester University Press, 1971), Chapters 2, 3 and 4.

5 AAC also held minority interests in individual Rhodesian Selection Trust (RST) group mines.
Western World's demand for copper; production was fully integrated from an early stage, with the bulk of copper exports being in refined form from the mid 1930s onwards. By 1964 Zambia's annual production had reached nearly 630,000 tonnes, making her the world's third largest copper producer and its largest exporter of the metal.

In 1953 Northern Rhodesia joined with Southern Rhodesia and Nyasaland to form the Federation of Rhodesia and Nyasaland. The Federal government, based in Salisbury, was firmly under the control of Southern Rhodesian settlers, who used their political power to concentrate economic development in the south. Customs barriers were removed within the union, and industries created to take advantage of the regional common market were almost exclusively located in Southern Rhodesia.

Federation was deeply resented by Africans in Northern Rhodesia; against their will they had become subjects of a government which sought to perpetuate white domination and racial discrimination. The African National Congress (ANC) was established to oppose Federation. In 1958 the movement split and its more militant faction, led by Kenneth Kaunda, formed the United National Independence Party (UNIP). In 1962 the African leaders reluctantly agreed to contest

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6 This demand was fueled by World War II, post-war reconstruction, and armaments manufacture associated with the Cold War and the conflict in Korea.

7 *Zambia Mining Year Book 1969*, p.27.

8 These included textiles, metals and machinery, agricultural equipment, oil refining and motor car assembly. Even a plant generating hydro-electric power for the Copperbelt from the Zambezi river was located south of the border.
elections under a highly restricted African franchise; in the event, Africans won a majority in the legislature and formed a government based on a temporary coalition between ANC and UNIP. Universal suffrage was introduced in 1963, and in January 1964 UNIP won a convincing electoral victory. Kaunda requested immediate independence from Britain, and the Republic of Zambia came into existence in October 1964.

The development of the copper industry had exercised little direct impact on Zambia's predominantly subsistence economy. A high proportion of the industrial goods and services used by the mines were imported; few linkage industries emerged, and those which did (power generation, rail transportation, timber and metal products) failed to achieve self-sustaining growth. The Copperbelt consumed substantial quantities of locally-produced agricultural goods, but these were largely supplied by a small number of expatriates who had established commercial farms along the line-of-rail running from Livingstone in the south through the Copperbelt to the Katangan border. Because of the Copperbelt's geographical concentration, mine infrastructure did little to stimulate other economic activities. Neither did wage payments represent a significant stimulant - African wages were low (especially until 1953), while expatriate

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9 In the 1920s some 96 per cent of Zambians were engaged in subsistence farming. R.E. Baldwin, Economic Development and Export Growth: A Study of Northern Rhodesia 1920-1960 (University of California Press, 1966), p.17.

10 Practically all capital good were imported, while as late as 1960 only 15-20 per cent of operational stores were purchased locally. R.E. Baldwin, op.cit., p.37.

11 See below, Table 11.
workers remitted a large part of their incomes or spent them on imported goods.\(^{12}\)

Neither were mineral taxes or mining company profits expended so as to stimulate economic development on a broader front. Taxation levels were low until 1948, and from 1953 onwards a substantial portion of mineral revenues was channeled to Southern Rhodesia and Nyasaland. From 1954-55 to 1959/60, the net drain from Northern Rhodesia was £56 million;\(^{13}\) the Northern Rhodesian government's total capital expenditure amounted to £50 million over the same period, indicating the significance of this loss.\(^{14}\) Much of the public expenditure which was made in Northern Rhodesia was directed towards the monetary sector, while little reached rural areas away from the line-of-rail. For example, spending on roads and railways was almost exclusively concentrated on the Copperbelt and copper export routes, with the result that many agricultural areas (in the Central and Eastern Provinces, for instance) were unable to take advantage of the markets provided by mining activity.

In general, the mining companies did not diversify their activities, and either remitted their profits or used them to expand copper production. The BSAC made no substantial investments in Northern Rhodesia over the period 1930-1963, during which time it received some £90 million in net profits


\(^{13}\) The net drain equals the difference between federal tax receipts originating in Northern Rhodesia and direct federal expenditure in Northern Rhodesia plus its share of income tax. A. Martin, Minding Their Own Business: Zambia's Struggle Against Western Control (Hutchinson, London, 1972), p.36.

\(^{14}\) ibid.
from its mineral rights.\textsuperscript{15} AAC and Rhodesian Selection Trust (RST) reinvested part of their profits in mining activities, but the rest they remitted; over the years 1954-1963, for instance, dividend payments by the various operating companies amounted to £259 million.\textsuperscript{16} Outflows of dividends, undistributed profits and net interest payments frequently exceeded 20 per cent of net national income.\textsuperscript{17}

The pattern of government spending described above reflected the white minority's ability to win the lion's share of public expenditure for itself, an ability well illustrated by the fate of a ten year development plan formulated by the Colonial Office in 1947. This envisaged that African housing, African education and rural development would absorb 31 per cent of planned expenditure. The white-dominated legislature succeeded in changing this emphasis. Expenditure on European education and housing and on public works along the line-of-rail was increased, while the allocation of funds to African housing and education and rural development was cut to 17 per cent.\textsuperscript{18} In general, patterns of public expenditure discriminated heavily against

\textsuperscript{15} M. Nziramasanga, \textit{The Copper Export Sector and the Zambian Economy} (Unpublished Doctoral Dissertation, Stanford University, 1973), p.27. The BSAC's only commitment of funds involved interest bearing loans made to help finance the Kariba power-generating project (£4 million) and African housing on the Copperbelt (£2 million).

\textsuperscript{16} M. Naziramasanga, \textit{op.cit.}, p.27.

\textsuperscript{17} In 1953, for example, they amounted to 26 per cent of net national income. R. Hall, \textit{Zambia} (Pall Mall Press, London, 1965), p.276.

\textsuperscript{18} R.E. Baldwin, \textit{op.cit.}, pp.195-6.
Africans; for example, during the federal period expenditure on European education averaged £103 per child, on African education £9 per child.¹⁹

Economic discrimination characterised the private as well as the public sector. Fertile agricultural land along the line-of-rail was reserved for Europeans, and a discriminatory policy of prices and quotas used to limit the Africans' share of the profitable local maize market.²⁰ On the Copperbelt, European mineworkers established, and for many years maintained, a monopoly of all skilled positions.²¹

Racial discrimination took social as well as political and economic forms, and many of those who formed Zambia's first government, including the President, Dr Kaunda, had suffered personal humiliation under a system of racial segregation which branded them as second class citizens in their own country.²² It is important to keep this background of discrimination and deprivation in mind, for it was to exert a strong influence on government policy towards the mining companies in the period after Independence.

Mineral revenues and the prospects for national development

At Independence, Zambia's economy was characterised by four notable features, each a cause of considerable concern to the new government. The most apparent was the sharp

¹⁹ R. Hall, op.cit., p.172.
²⁰ A. Martin, op.cit., p.32.
²¹ See below, p. 174.
²² For Dr Kaunda's own account of his experiences, see his Zambia Shall Be Free - An Autobiography (Heinemann, London, 1972).
discrepancy between a rural subsistence sector in which some 70 per cent of Zambia's four million people eked out a precarious existence, and an urban sector clustered along the line-of-rail, based on a large modern mining industry and providing a small number of expatriates (about 78,000 in 1959) with a standard of living high even by north European standards. Some 225,000 Africans were also employed in the urban sector, at incomes far below those of expatriates but well above those of subsistence farmers.  

Another important feature was the degree to which the economy was dependent on copper mining. In the early 1960s, it provided about 90 per cent of exports, from 35 to 70 per cent of government revenue (depending on copper prices), and accounted for about 48 per cent of net domestic product. If the impact of service and ancillary industries and of government expenditure financed by mineral revenues was taken into account, the last two figures would be considerably higher. The corollary of this dependence was the relative insignificance of manufacturing and agriculture - in 1964, mining accounted for 47 per cent of GDP, manufacturing for only 6 per cent, and agriculture for 11 per cent.  

A third feature involved the almost total absence of an indigenous skilled workforce, reflecting the neglect of African education and the lack of training facilities for

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23 See pp. 251-60 below for a more detailed discussion of income distribution in Zambia.

24 Zambia Mining Year Book, 1969, p.28.

25 Derived from C. Elliott (ed), Constraints on the Economic Development of Zambia (Oxford University Press, Nairobi, 1971), Table 1.9, p.16.
Africans on the mines. (It was illegal for an African to become an apprentice before 1959.) At Independence there were only 103 Zambian university graduates and 1,200 high school graduates, while the mining industry's skilled workforce was comprised almost exclusively of expatriates.

The fourth feature was Zambia's dependence on her white-dominated southern neighbours, Rhodesia and South Africa. Rail links passing through Rhodesia carried about 90 per cent of Zambia's exports and imports, while in 1964 Rhodesia supplied about 40 per cent of Zambia's imports and South Africa a further 20 per cent. 26

The structure of the economy could not be altered without massive government investment. If productivity was to be increased in the rural areas, training programmes would have to be undertaken, farmers supplied with seeds, fertilizer, and equipment, and facilities provided for transporting, storing and marketing agricultural goods. Educational expenditure would have to rise substantially if an indigenous skilled workforce was to be created. Industrial development would have to be fostered if the economy was to be diversified and its dependence on Southern Africa reduced. In pursuit of this last aim, the government would also have to seek alternative transport routes for Zambia's international trade.

Given Zambia's economic circumstances, much of the required investment would have to be financed from mineral revenues. During the colonial period, a substantial portion of such revenues accrued to the BSAC, which retained the

26 Derived from S. Goodman, 'The Foreign Exchange Constraint', in C. Elliott, op.cit., Table 8.4, p.245.
right to impose royalties when it granted leases to AAC and RST in the 1920s. Royalty payments equalled 13.5 per cent of the 'price' of copper (in fact, the average LME (London Metal Exchange) price over a given period), less K16,27 per long ton produced. In other words, royalties became payable once the LME price exceeded K118.52 per long ton. By the late 1950s, prices were well above this level and royalty payments were consequently substantial, amounting to nearly K24 million in 1960.28 The Zambian government wished to capture this revenue, for political as well as economic reasons. Many Zambians viewed the BSAC as an archetype of colonial exploitation, as a parasite which engaged in no productive activity but drained Zambia of its wealth. To them, political independence would have little significance if economic exploitation of this type was allowed to continue.

In October 1963 the UNIP/ANC coalition government opened negotiations with the BSAC for purchase of its royalty rights. The Company refused an offer of 22 annual instalments which would render a present capital value of K70 million, claiming it had no certainty that payments would in fact be made over a long period. The BSAC asked the British government to guarantee payment, but the request was refused and negotiations broke down.

By February 1964 UNIP's political position was stronger, and the colonial officials who had previously advised its

27 Zambia established a separate currency unit in January 1968, the Kwacha (K), at the rate of £1 sterling = 2 Kwacha.
28 The exact amount was £11,850,000. P. Slinn, 'The Legacy of the British South Africa Company';, in W. Bostock and C. Harvey, (eds), Economic Independence and Zambian Copper: A Case Study of Foreign Investment (Praeger, New York, 1972), p.44.
leaders were being replaced by more radical expatriate staff. The government began to realise that the royalties might be acquired for substantially less than had previously been anticipated. It did not wish to resort to compulsory acquisition so as to avoid adverse publicity among the international financial community at a crucial stage of Zambia's development. In addition, a referendum would have been required to amend the British-designed constitution, which prohibited such action. The government decided to examine the legal basis of the BSAC's claim to mineral ownership. Detailed historical research revealed that the treaties on which the BSAC based its claims were of doubtful validity, and in any case did not encompass the area which later became the Copperbelt. It also showed that the British government had been aware of these circumstances when it reaffirmed the BSAC's right to charge royalties in 1950.  

The relevant evidence, published in September 1964, provided the Zambians with a valuable bargaining counter, and won them the support of most moderate British press opinion. They now argued they had no legal or moral obligation to the BSAC; any such obligation rested with the British government, which had allowed the BSAC to extract revenue illicitly. In order to assure investors of Zambia's good faith, they offered to pay the BSAC a nominal sum, but insisted the British government would have to make up the balance of any settlement. 

Talks were initiated between the British and Zambian governments and the BSAC towards the end of September. Zambia offered K4 million while the Company demanded K36 million.

29 A. Martin, op.cit., p.125.
The British government refused to make up the balance, and the Zambians then warned a referendum would be held to permit compulsory acquisition if their offer was rejected. Faced with this prospect, the BSAC capitulated.\footnote{The British government had meanwhile agreed to match the Zambian offer, and the BSAC thus received £4 million or K8 million. The agreement was concluded some three hours before Zambia's Independence ceremony.}

The Zambian government's first sortie into the field of mineral policy seemed to promise well for the future. It acquired a major source of revenue at very little cost in financial terms or in terms of Zambia's reputation with the international financial community. In doing so, it showed an awareness of the need to reconcile short-term revenue requirements with Zambia's longer-term need for continued investment. In the event, this early promise was not to be fulfilled.

Taxation and the formulation of mineral policy, 1964-9

In the years after 1964 mineral taxation became an increasingly contentious issue in Zambia. Two types of taxation were involved. Royalties were paid by all mines according to a single formula (outlined above), while income tax was charged on profits after deduction of royalty payments. The maximum income tax rate was 45 per cent, but lower rates applied to companies mining low grade ores or engaged in expanding production.\footnote{In 1965, for example, five different rates were charged (35, 41.25, 42.5 and 45 per cent). See the statement by the Financial Minister, Mr Wina, Zambia Hansard, 15 July 1965.}

The mining companies opposed the imposition of royalties, claiming they might make it unprofitable to extract lower-grade
ores from existing mines, since they were a charge on production which took no account of costs. Royalties might also deter investment in new mines by reducing or eliminating potential profits. Any tax would of course reduce profits, but a royalty (unlike a profits tax) could eliminate profit altogether, or even turn it into a loss. The likelihood of this happening was increased by the fact that Zambian copper was then sold at producer prices which were often substantially lower than the LME prices on which royalties were calculated. The companies also argued that application of a single royalty rate to all mines was inequitable, since less profitable companies paid higher effective tax rates than more profitable ones.  

Initially, it appeared the government would amend the tax system, but in the event no initiative was taken. Government spokesmen justified their inaction on the grounds that the system had worked well for the BSAC and had provoked little criticism from the companies prior to Independence, and consequently that it should work well for Zambia. They also pointed out that genuinely marginal mines could claim remission of royalties.

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32 See p. 169 below.
34 In December 1964 the Minister for Mines and Labour, Mr Chimba, stated that urgent consideration was being given to formulation of new legislation governing mineral royalties. Zambia Hansard, 15 December 1964.
35 See the Statement by the Minister for Mines and Co-operatives, Mr Zulu, Zambia Hansard, 10 August 1965.
36 Ibid.
Zambian politicians were understandably suspicious of the companies' new-found concern with the royalty system, but their suspicions diverted their attention from the fact that significant changes were underway in Zambia's mining industry. The most important involved the cost structure of copper extraction. Ore grades were falling, requiring increased throughput to maintain metal production. Mining was taking place at deeper levels, and consequently ventilation, drainage, and haulage costs were increasing. Labour costs were also rising rapidly.\textsuperscript{37} Over the period 1964/7-1967/8, the total average cost per ton incurred at the mine increased by 45 per cent.\textsuperscript{38} At the same time, transport costs were rising, particularly after the re-orientation of trade routes which followed the Rhodesian Unilateral Declaration of Independence (UDI) in 1965.\textsuperscript{39} Profits were already being eroded, and royalties consequently represented a proportionately greater burden. That burden might be bearable while prices were high, but when prices fell it was bound to have a major impact.

Another significant change concerned the attitude of the copper companies themselves. From the mid 1930s to the late 1950s, AAC and RST had been attempting to increase their share of the world copper market, a strategy which called for major expansion of mining capacity in Zambia. By

\textsuperscript{37}Wage costs increased by 49 per cent between 1964/5 and 1966/7. Derived from M. Bostock, 'The Background to Participation', in M. Bostock and C. Harvey, op.cit., Table 5.3, p.117.

\textsuperscript{38}ibid.

\textsuperscript{39}Transport costs per ton of copper exported increased by some 34 per cent from 1964 to 1967. Zambia Mining Year Book, various issues.
Independence, this situation had changed. As one commentator noted in 1964, the companies 'are earning a comfortable return ... under present market-sharing arrangements, and apparently will not attempt to enlarge their market share in the future'. Political developments had also influenced corporate attitudes. Company officials feared an independent government might nationalise the mines, force localisation too quickly, raise tax rates, or allow political considerations to influence marketing policies. Their inclination was to avoid major new commitments until the character of the new regime became clear, though sufficient funds would be invested to maintain the value of their assets.

In sum, whereas the companies had a strong inclination to invest in new capacity during the decades prior to Independence, they were now disinclined to do so, and positive incentives were required if this attitude was to be changed. The tax system in force in 1964 certainly did not offer such incentives, and neither did the modifications subsequently made to it (for example granting of royalty rebates to unprofitable mines, application of lower tax rates to marginal or rapidly expanding mines). The concessions involved were not automatic, were frequently granted after considerable delay, and their exact extent was not known in

42 ibid.
43 The Bancroft mine, for example, paid royalties during 1964 when its operations were running at a loss; by August 1965 the government had not yet decided what remission (if any) it would receive.
advance. This last point was particularly important, since companies considering new investments could not predict their tax liability.

For most of the early 1960s, world copper production exceeded demand, exerting downward pressure on copper prices. The major international copper companies co-operated in reducing deliveries to the market, and prices were held stable over the period late 1961 to late 1963 (at about £234 (K468) a ton on the LME). The supply-demand position improved in late 1963 and the LME price began to rise. However most of the major producers (including AAC and RST), fearing that substantial price increases would lead to substitution of aluminium for copper, set their own prices. The producer price was gradually increased from £234 (K468) to £335 (K670) a ton, but LME prices rose much more quickly, at times to well over £600 (1,200) a ton. In April 1966 the Chilean companies increased their prices from £336 to £486 a ton, effectively abandoning the producer price system. The Zambian companies decided they had no option but to follow suit, and switched to an LME-based pricing system.

The Zambian government wished to capture part of the additional revenue which this switch would generate, and it immediately introduced a copper export tax, which would equal 40 per cent of the amount by which the LME price exceeded

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44 This was because, as the Minister for Mines and Co-operatives explained, each case was to be dealt with on its own merits 'bearing in mind the need to stimulate foreign investment and to expand mineral production...' (Zambia Hansard, 10 August 1965). However, as pointed out in the text, the uncertainty created by such an approach was likely to deter investment.
£300 (K600) a ton. Imposition of such a tax was apparently being contemplated in any case. The government was unhappy at the loss of potential revenue caused by producer pricing; introduction of the copper export tax would have forced the companies to adopt an LME-based system, since they could not afford to pay the tax if they continued to sell at the lower, producer price.

The copper export tax succeeded in its main aim, earning K245 million for the government over the following three years, but it compounded the disadvantages of the royalty system since it too was a charge on production which took no account of cost.

Despite its inconsistencies and its weaknesses, Zambia's mineral taxation system remained unchanged until 1970. The government's lack of initiative in this area reflected its failure to come to grips with the basic problems of formulating a mineral policy to suit Zambia's circumstances. Public policy statements invariably emphasised the need to increase production, but the implications of this requirement were not examined. Would it be necessary to sacrifice tax revenue

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45 A. Martin, op.cit., p.136.


47 In theory it was a tax on exports but virtually all production was exported.


49 The First National Development Plan, for example, repeatedly emphasised the need for increased production, but did not discuss the reasons for pursuing this aim or the requirements for its successful implementation. (See Chapter VI of the Plan, 'Mines').
in order to encourage investment in new capacity? If so, how much was the government prepared to forego? In fact, was the priority to maximise production (and so employment and export receipts) or was it to maximise revenue?

What explains this failure to formulate clear policy priorities for an industry so crucial to Zambia's economy? The importance of copper mining may itself provide part of the explanation. Zambia's political leaders were conscious of their ignorance of the industry, and may have been reluctant to take initiatives which might damage it, especially when existing arrangements were producing very substantial revenues. In addition, the government was not under significant political pressure to act. The parliamentary opposition made only feeble attempts to capitalise on the government's inaction, while vigorous political debate was generally lacking in a country where the politically able were nearly all employed by government or the public service. Zambia's leaders faced other major problems which were of immediate political significance (the Rhodesian situation, rural development), and may have been reluctant to utilise the limited administrative capacity at their disposal to formulate policies for an industry which was then operating very profitably.

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50 A. Martin, op.cit., p.132.

51 What criticism there was came almost entirely from European members, whose motives were suspect in the eyes of many Zambians. See the statements by Burney (Zambia Hansard, 20 July 1967) and Stanley (Zambia Hansard, 4 August 1967), for example, and the reactions to them by Zambian members.

52 A. Martin, op.cit., p.132.
Probably as a result of these factors, appropriate machinery for formulating mineral policy was not established. A separate Mines Department was not created, and Mines shared ministries in turn with Labour, Cooperatives, Industry and Trade, and Lands; thus the attention of the politicians responsible for mining was divided. In 1968 a Mines and Minerals Development Unit was established within the Ministry of Lands and Mines, and this might have formed the basis for efficient policy-making. However its staff was drawn from very disparate backgrounds, their individual capabilities varied markedly, turnover was high, and consequently the quality and content of advice given to policy-makers varied considerably over time. For this reason, and because its expatriate staff was distrusted by some politicians, the Unit had little impact on policy-making.\footnote{ibid., p.133.} Turnover at the ministerial and permanent secretary level was also high,\footnote{Ministerial responsibility for Mines changed hands five times between 1964 and 1969.} making it difficult for the individuals involved to acquire relevant expertise, and militating against continuity in policy-making.

One effect of the weakness in policy formulation was that considerable energy was devoted to issues which a thorough analysis of policy priorities would have shown to be peripheral, for example that of marketing. Zambia's copper was sold to independent merchants and fabricators by London-based subsidiaries of AAC and RST, who could be expected to sell copper at the highest available price subject only to
what they conceived to be the long-term interests of the copper mines. Since the government could legislate to enforce its will where it perceived a divergence between those interests and its own, there seemed little reason for it to become directly involved in marketing. Yet over the period 1966-9 much time and effort was invested in (unsuccessful) attempts to achieve such an involvement.

The lack of effective policy-making had another, more serious effect. AAC and RST were waiting for indications of the government's competence and of a favourable attitude towards themselves, and they regarded the royalty issue as an important test. They were not asking that their overall tax burden be significantly reduced, but rather that it be redistributed from less profitable to more profitable mines, and it would therefore cost the government little to grant what they regarded as a major concession. The government failed the test, with the result that the companies (particularly RST) deferred consideration of a number of major new mineral developments.

The role of expatriate labour

Another major issue facing the government concerned the white expatriates who dominated the skilled manual, supervisory, technical, professional and managerial categories in the copper

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55 For example, imposition of the copper export tax would almost certainly have forced the companies to change their pricing policies had they not already done so.

56 These attempts are outlined in A. Martin, op.cit., pp.136-7.

57 RST apparently deferred consideration of developments at Baluba and Chimbishi. A. Martin, op.cit., p.132.
industry. Until the mid 1950s, mining was mainly carried on by gangs of unskilled Africans under white supervision, a system which originally grew from necessity. When mining commenced, African labour consisted mostly of subsistence farmers who worked on the Copperbelt for short periods, returning to their villages when they had earned enough cash to meet poll taxes or other commitments. They possessed no industrial skills and had few opportunities to acquire them, because their periods of employment were so brief and because they lacked formal education.

By the late 1920s many Africans were settling on the Copperbelt, and raking up permanent employment in the mines. Despite this change, white workers, organised from 1936 in the Northern Rhodesia Mine Workers Union, continued to hold all skilled and supervisory positions. Their monopoly was based on agreements with the mining companies which reserved certain job categories (known as 'A' Schedule jobs) for whites, and on legislation which prevented Africans from becoming apprentices.

By 1945 the companies were anxious to proceed with localisation, but the European Union prevented this. It refused to allow job fragmentation (breaking down of existing job categories into tasks which could be performed by more numerous and less skilled Africans), and asserted the principle of equal pay for equal work, regardless of race. Though

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59 Some substitution of African for European labour did however occur; operation of trucks, underground locomotives, and drilling equipment for example, was turned over to Africans.
admirable in theory, application of this principle would effectively block localisation, since the companies refused to employ Africans at rates of pay which included an inducement element designed to attract skilled personnel to Zambia. At this stage, the companies failed to press the matter, but in 1954 they adopted a stronger stand. RST threatened to terminate its European employees' contracts unless they accepted job fragmentation and a dual wage structure. In 1955 the Union agreed to release twenty-four low-skilled jobs from the 'A' schedule, and allow them to be fragmented by Africans at lower rates of pay.

In 1959 a further 38 low-skill jobs were released, but with Independence on the horizon the companies realised that more fundamental change was required. Recognizing that a complete reorganisation of manning structures was needed if Zambianisation was to proceed rapidly, they wished to vastly increase job fragmentation and job modification. This would involve identification of components in functions previously performed by Europeans which Africans could perform or for which they could quickly be trained. This exercise was completed in 1963; the coming to power of a Zambian administration in Lusaka considerably weakened the political strength of the European Union, and it accepted the new manning structures.

The companies also wished to establish the temporary status of their European workforce. Under the Federation, Europeans had been encouraged to think of themselves as permanent residents of Northern Rhodesia; now they would be regarded as expatriates who would supply their skills and experience only for so long as these could not be provided by
Zambians. Their new status was fully established by 1966, when all Europeans were given fixed term contracts.

The immediate impact of these changes was to give less educated miners a chance to advance to a much larger number of jobs of intermediate skill; by 1966, over 3,300 Zambians were performing tasks with a significantly higher degree of skill and/or responsibility, and it was expected that this number would have increased significantly by 1970. In the longer term, the ending of the European workforce's entrenched position offered the prospect of Zambianisation at the higher levels of the industry. However, this prospect would not be realised for some time to come, given the almost total absence of suitably-qualified Zambian candidates for technical, professional and managerial positions.

The Take-over decision

As mentioned above, Zambia was characterised by a high degree of economic dependence in 1964; dependence on Southern Africa for vital imports and transport routes, dependence on foreign capital and labour. A basic element of President Kaunda's political philosophy was the desire to escape from this situation, a desire given greater urgency by the Rhodesian UDI. Determined to loosen Zambia's links with the South and to enforce UN sanctions against Rhodesia, the government encouraged rapid growth of domestic manufacturing capacity, creating boom

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conditions in Zambia's economy. Over the period 1964-6, manufacturing output grew by 171 per cent, while output in the construction sector grew by 215 per cent.62

Economic expansion brought problems of its own. Many of the companies it benefited had close links with Southern Africa. The Rhodesian UDI and Zambia's determination to disentangle itself from the South reduced their time horizons significantly,63 and they attempted to maximise profits in the short term and to remit a high proportion of those profits immediately. Many withdrew large amounts of capital by meeting replacements costs from local borrowings and distributing all profits.64 Such practices created a serious drain on the balance of payments, reduced the amount of loan capital available to domestic enterprises, and left many industries under-capitalised.65 The economic boom also caused inflationary pressures - demand expanded rapidly while trade restrictions were causing bottlenecks in supply, and some companies took advantage of this situation to impose massive price increases.66

The government's response to these problems was announced by President Kaunda at Mulungushi in April 1968. Local borrowing by foreign- and expatriate-owned companies would be curtailed, while dividend payments abroad would be limited

62 C. Harvey, 'Growth and the Structure of the Economy' in M. Bostock and C. Harvey, op.cit., Table 4.1, p.90.
63 M. Bostock, 'The Background to Participation', in M. Bostock and C. Harvey, op.cit., p.112.
64 Zambia's Economic Revolution, pp.iii-v.
65 ibid.
66 ibid., p.38.
to the lower of 50 per cent of profits or 30 per cent of equity capital. The government would greatly expand its direct involvement in the economy, by asking a number of major manufacturing and distribution companies to 'invite' the State to purchase 51 per cent of their equity. Only in this way, argued the President, could the government ensure that price and profit levels and investment policies would be determined with Zambia's interests in mind, and that production could be rationalised and unnecessary duplication eliminated.

The vehicle for state participation would be the Industrial Development Corporation (INDECO), a government agency which had played a major role, directly and indirectly, in fostering industrial expansion since Independence. INDECO would negotiate values and terms of payment for the State's shareholdings with the companies involved, but the President stated that compensation would be based on book value.

No mention was made of government participation in the mining companies, but the President did express criticism of their investment policies:

I want to say to the mining companies that I am very disappointed at the virtual lack of mining development since Independence. Apart from very small developments and some further

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67 ibid., pp.27-8, 50.
68 ibid., p.38.
69 ibid., pp.38-40, 43.
70 INDECO participated in joint ventures with private companies, provided loans and other forms of assistance to prospective investors, and established a number of major transport organisations.
71 'Book value' normally reflects the historical cost of a company's assets less whatever has been provided for depreciation on them.
development at existing mines, we have seen nothing. The companies claim that the royalty system has been against new development... I do not agree ... I have been following their accounts and I know very well that they could have embarked upon further expansion if they chose to devote part of their profits for this purpose. Instead of re-investing they have been distributing over 80% of their profits every year as dividends.\(^2\)

Nevertheless, Dr Kaunda stated, the government would change the royalty system. No details were announced, but the new arrangement would leave government revenue substantially unchanged while meeting the companies' criticisms. The companies for their part would be expected to expand production; they would be subject to the general limitation on dividend remittances, and would be expected to reinvest the 50 per cent of profits retained in Zambia.

Was this criticism of the companies justified? First, it should be noted that two separate issues were in fact involved - development of additional capacity and reinvestment of profits. The rate of development of new capacity certainly slowed down after 1964. Copperbelt production increased by only 14 per cent between 1964 and 1969 (see Table 6),\(^3\) compared with 21 per cent between 1960 and 1965 and 72 per cent between 1955 and 1960.\(^4\) However after Independence mining was taking place at deeper levels and ore grades were declining, and the amount of investment required to maintain production increased. Investment of this type was charged to

\(^2\) ibid., pp.49-50.

\(^3\) More precisely, AAC's production declined by 2.4 per cent while RST's increased by 28 per cent. A. Drysdall, 'Prospecting and Mining Activity, 1895-1970', in M. Bostock and C. Harvey, op.cit., p.73.

\(^4\) ibid.
Table 6
Zambia's Copper Production,  
Selected Years 1942-1964, and 1964-1978

<table>
<thead>
<tr>
<th>Year</th>
<th>Production ('000's Metric Tonnes)</th>
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<tr>
<td>1942</td>
<td>251</td>
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<tr>
<td>1946</td>
<td>185</td>
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<tr>
<td>1950</td>
<td>281</td>
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<td>709</td>
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<tr>
<td>1977</td>
<td>656</td>
</tr>
<tr>
<td>1978</td>
<td>643</td>
</tr>
</tbody>
</table>

Sources: R.E. Baldwin, op.cit., Table 2.2, p.33; Zambia Mining Year Book, various issues.
working costs rather than appropriated from profits (a more usual procedure), and for this reason President Kaunda's claim that only 20 per cent of profits were reinvested was somewhat misleading. For example, AAC group mines declared profits of K88.6 million over the period 1964-8, of which K12.6 million or 14 per cent was appropriated for capital expenditure. But capital investments totalling K36.4 million were made in maintaining production, and if these had been appropriated from profits rather than charged against working costs AAC's reinvestment rate would have been 39 per cent. This is similar to the rate achieved by the Northgate group in Ireland (37 per cent), and by Bougainville Copper Limited in Papua New Guinea (42 per cent). Significantly, neither of these companies expanded capacity substantially during the periods to which these figures apply.

This discussion illustrates a point made earlier: the Zambian mining groups (unlike some other foreign companies) were willing to maintain the value of their investments, but were reluctant to invest in new capacity (for reasons mentioned above). The measures announced by President Kaunda did nothing to overcome this reluctance, firstly because his promise to change the royalty system was not acted upon, secondly

75 This is the procedure followed by Bougainville Copper Limited and by the Northgate group, for example.


77 Ibid.

78 Derived from Table 1 above.

79 Derived from Table 18 below.
because restriction of dividend remittances had no impact on investment. The companies simply accumulated the blocked funds in local bank accounts. 80

The issue of prospecting and mining rights also required urgent attention if new mineral developments were to proceed. The government had acquired only the BSAC's mineral rights, and other companies (including AAC and RST) held rights, in perpetuity, over a large part of the country. If the companies decided to 'sit' on known mineral deposits or to ignore certain areas, 81 the government could neither force them into activity or award mining or prospecting rights to other, more energetic firms. Corporate ownership of mineral rights also prevented the State from exercising control over aspects of mining operations considered vital to its interests, for example production and recovery rates and cut-off grades. 82

By early 1969 it was apparent that the long-awaited initiative on mineral policy would soon by under way. Andrew Sardanis, a forceful businessman who as Chairman of INDECO had

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80 In fact the manner in which the restrictions were enforced further undermined confidence in the government's administrative capabilities. The enforcing authority, the Bank of Zambia, was not given clear instructions as to what accounting methods should be used in defining 'profit' (and so permissible dividends). On two occasions the Bank delayed payment of dividends until the companies were threatened with suspension of dealings in their shares by the London Stock Exchange, which led President Kaunda to intervene and order payment to be made.

81 The question arises as to why the existing companies might not wish to exploit known deposits or open up new areas. They might simply be unwilling to make the required investment in Zambia. On the other hand, they might be attempting to restrict supply to world markets in order to maintain prices, a strategy which might be in Zambia's interests. However, Zambian leaders displayed little sympathy with the concept of production curtailment as a price support mechanism.

82 A. Martin, op.cit., p.151.
implemented the take-overs announced at Mulungushi, was appointed Permanent Secretary of the Trade, Industry, and Mines Department, and drafting of legislation on taxation and mineral rights was soon under way. Action could not be taken on the latter until the constitutional restriction on compulsory acquisition of private property was removed, and the government received permission to do this in a referendum held in June 1969. By July the new legislation was ready; its details were announced by the President at Matero Hall, Lusaka, on 11 August.

The President began by repeating his claim that AAC and RST were failing to reinvest enough of their profits in development. He went on to mention the problems caused by corporate ownership of mineral rights, and announced that all such rights would revert to the State. Existing mines would be granted mining leases for twenty five years, the size of the lease depending on the rate of extraction. Where minerals had been discovered but not exploited, the finder would either proceed with development within three years or surrender his rights. Companies engaged in prospecting could complete their work, and if minerals were discovered apply for mining leases. The rights of companies not engaged in exploration or development would revert to the State immediately. The President also announced that all new mining ventures would be expected to offer the State at least 51 per cent of their shares.  

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83 Towards Complete Independence, Address by His Excellency the President, Dr K.D. Kaunda, to the UNIP National Council held at Matero Hall, Lusaka, 11 August 1969 (Government Printer, Lusaka, n.d.), pp.29-34. [Hereafter referred to as Towards Complete Independence.]
Proposed changes to the taxation system were also outlined. Royalties and export tax would be replaced by a mineral tax amounting to 51 per cent of profits. Income tax at the standard rate (45 per cent) would be charged on the balance of profits, giving a total tax rate of 73.05 per cent. 84

These initiatives had been expected, but the President's third major announcement had not. The AAC and RST mines would be asked to sell 51 per cent of their shares to the State. INDECO would negotiate purchase terms, but again book value would form the basis of compensation. The State would not pay for its share immediately, but would do so out of future dividends. 85

What prompted the government to seek majority ownership of the copper mines? The official reason was that state control of the mines was essential if economic independence was to be achieved. As President Kaunda stated,

... I wanted the mining economic reforms to set the Nation well and truly towards its economic independence. I do not think that this can be achieved without the Nation acquiring full control of the existing mines... 86

The belief in the need for state control was based on the assumption that national and corporate policies would frequently conflict. Six specific areas of potential conflict were

84 ibid., pp.35-6.
85 ibid., pp.36-7.
86 ibid., p.36.
identified, the first of which involved the mining companies' purchasing policies. As mentioned above, Zambia was determined to reduce imports from Rhodesia/South Africa (which traditionally supplied a high proportion of mining industry inputs), even if alternative sources of supply were more expensive. The mining companies, on the other hand, wished to stick to suppliers whom they knew well (indeed some were affiliated companies), and on whom they could therefore rely to meet their requirements efficiently. In addition, it was usually cheaper and almost always quicker to obtain supplies from Southern Africa than from Europe or elsewhere.

A second area, that of investment policies, has already been discussed in detail. A third involved the issue of Zambianisation. While important advances had been made since Independence at the semi-skilled and lower supervisory levels, progress had been slow in the skilled manual, technical, professional and managerial categories. For example, in 1969 over 95 per cent of artisans were still Europeans, while there were no Zambian underground managers, assistant underground managers, mine captains, metallurgists, or mining engineers. A fourth concern was that the companies might

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88 In certain cases this policy was based on economic as well as political grounds, as the government hoped it would encourage industrial growth in Zambia.

89 Copper Industry Service Bureau, Training for Zambianisation in the Mining Industry (Kitwe, n.d.), pp.5, 12; information supplied by Mining Industry Manpower Services Unit (MIMSU).
employ methods such as over-invoicing of goods purchased from affiliates to remove profits from Zambian jurisdiction. Fifthly, it was feared that mining methods might be employed which were inimical to Zambia's long-term interests, for example in the areas of grade control and dilution. Finally, it was felt that employment, wage, and pricing policies adopted by the companies might conflict with national economic and social goals. In addition to and partly arising from these specific issues, there was a general feeling that Zambia's sovereignty would be undermined if an industry on which its future depended was controlled by foreigners.

Two important issues arise: were these fears justified and, if so, would majority state ownership remedy the situation? These questions are considered in the next Chapter, but of immediate relevance is that Zambia's leaders clearly answered both in the affirmative. Thus the initiatives announced at Matero can be seen as continuing a broad strategy, formulated as a logical response to perceived problems and first implemented at Mulungushi.

However other factors played a part in the decision to take those initiatives and in the timing of that decision, and, as we shall see, its timing was to exert a major impact on the outcome. In 1968 the government had felt that the cost of compensation on a scale sufficient to persuade the companies to continue managing the industry would be prohibitive. But the take-overs announced at Mulungushi had been paid for out of future profits, effectively relieving

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90 A. Martin, op.cit., p.158.
the State of financial cost, and INDECO had negotiated contracts with the previous owners under which they continued to provide managerial and technical services. There seemed no reason why the mining companies could not be taken over in the same way, especially since the Chileans, whose expertise was highly regarded in Lusaka, had recently nationalised their copper industry under a similar arrangement.\footnote{ibid., pp.158-9.}

Another relevant point was that major initiatives in mineral policy were about to be taken in any case, and it seemed sensible to implement all the desired changes at once, placing the industry on a firm footing and eliminating uncertainty. But perhaps the most important influence on the timing of the decision arose from short-term political considerations. In August 1969 President Kaunda was undergoing the severest political test of his career. Shortly before, a major political crisis had resulted from clashes between the President and the judiciary.\footnote{These resulted in the sudden departure from Zambia of the Chief Justice, Mr Skinner, who had been a founder-member of UNIP and a personal friend of Kaunda's. His flight shocked many expatriates, undermining their confidence in their own futures in Zambia.} UNIP was deeply divided along tribal lines. By August 1969 these divisions had crystallised around Simon Kapwepwe, Vice-President of Zambia and UNIP, and the Matero meeting of UNIP's National Council seemed certain to witness open conflict. The announcement of the latest set of 'reforms' was sure to divert attention from these issues. In the event the President used his considerable powers of oratory to make the most of
the occasion, and his success in rallying the Party behind him was almost total. It placed him in such a strong position that he was able to neutralise the threat from Kapwepwe within a few weeks.

Thus the Take-over decision was both a logical outcome of the government's broader economic and political strategy and of shorter-term tactical and political imperatives.

The public reaction of AAC and RST to the Matero announcement was moderate. Neither questioned the basic principle of majority state participation, and both indicated their willingness to negotiate compensation payments and management contracts. Negotiations took place over the period September-November 1969, and an agreement was signed on 24 December 1969, the principal provisions of which are outlined below.

The terms of the Take-over

Two new mining companies, Roan Consolidated Mines Limited (RCM) and Nchanga Consolidated Copper Mines Limited (NCCM), were formed through amalgamation of the RST and AAC group mines respectively. Ownership would be divided between

See Towards Complete Independence, especially pp.30-5.

A. Martin, op.cit., p.62.

The terms of the arrangement were contained in a Master Agreement and various subsidiary documents including management contracts, sales and marketing contracts, and the Memoranda and Articles of Association of the two new Government mining companies. The contents of these documents are summarised in M. Bostock and C. Harvey, op.cit., Appendix A.
the government (51 per cent) and the private shareholders. The government would appoint a majority of the directors of both companies, to be known as 'A' directors; the minority shareholders would elect the remaining, 'B', directors, who would choose the Managing Director of each company from among their number.

AAC would receive 51 per cent of the book value of its mines (K125,766,000). The RST group mines were not in fact treated on a strictly 'book value' basis, as their accounting methods had led to undervaluation of their assets. Those assets were valued at K165 million and so RST and the other shareholders would receive K84.15 million. In both cases, payment would be made by the Zambia Industrial and Mining Corporation (ZIMCO), though the government's shares would be held by the Mining Development Corporation (MINDECO). ZIMCO would effect payment by issuing bonds bearing interest at 6 per cent, repayable to RST in sixteen semi-annual instalments and to AAC in twenty four semi-annual instalments. Provision was made for accelerated repayment in certain circumstances; if two-thirds of MINDECO's dividends from either RCM or NCCM exceeded the guaranteed fixed annual payments, the additional income would be applied to bond repayment. If MINDECO's total dividend income fell below

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96 In RCM's case the minority shareholders were RST International (20 per cent), Zambia Copper Investments Limited (ZCI), a holding company for AAC's Zambian interests (12.5 per cent), and non-RST shareholders in the former RST group mines (16.5 per cent). ZCI was the sole private shareholder in NCCM.

97 The faster repayment to RST was also a recognition that it would be disadvantaged by application of the 'book value' principle.
the fixed annual payments, on the other hand, no postponement of those payments was provided for. Thus the State might not in fact pay for its shares out of future profits.

A management and consultancy contract was negotiated in both cases. Details of AAC's contract were not released, but it was similar to RST's, outlined below. RST would continue to provide the managerial, financial, commercial, technical and other services which it had previously supplied to or procured for the individual mines. These services would include production planning, capital expenditure estimates, advice on mining operations, engineering consultancy, recruitment of expatriate staff, and purchasing of goods outside Zambia. In exchange for these services, RST would receive .75 per cent of the operating company's gross sale proceeds, 2 per cent of its consolidated profits, an engineering fee of 3 per cent of the constructed costs of projects, and a recruiting fee of 15 per cent of each expatriate employee's first year's gross earnings.

RST could terminate the contract at two years' notice, to expire at any date after 31 December 1979, or after two years' notice to expire before that date if advice given by the 'B' directors was repeatedly ignored by the 'A' directors. RCM could terminate the contract if RST's shareholding in RCM fell below 20 per cent, or if the standard of the services supplied by RST fell below that which it had provided to RCM's predecessors.

AAC and RST would continue to market Zambia's copper output. Their sales contracts would be exclusive, and remuneration would equal 0.75 per cent of gross sales.

In fulfilling their contracts, RST and AAC undertook to give training and experience in relevant functions to staff seconded from RCM, NCCM, or MINDECO.

The Articles of Association of RCM and NCCM contained important provisions relating to managerial control of the companies. RCM and NCCM would pay dividends equal to their consolidated net profits 'after deduction only of appropriations in respect of capital expenditure, expenditure for exploration and prospecting, and reserves for necessary working capital'. Appropriations for capital or exploration expenditures would require the approval of both 'A' and 'B' directors voting separately, as would other major corporate actions, for example alteration of RCM's or NCCM's Articles of Association, participation by RCM or NCCM in non-mining activities or in mining activities for which they could not obtain finance on commercially competitive terms or which the 'B' directors did not regard as commercially viable, or any act ... that, in the opinion of a majority or the 'B' directors, [was] not directed toward ... the optimization of production and profit of RCM and NCCM. However, the 'B' directors would not 'unreasonably' withhold their consent 'having regard to the interests of RCM (and NCCM) and to the interests of the shareholders'.

99 ibid., p.235.
100 ibid., p.235.
101 ibid.
The Zambian government agreed to refer any disputes arising from the arrangement to the International Centre for the Settlement of Investment Disputes. It also agreed that all disputes would be governed by the law of Zambia as in force at the time the arrangement was concluded, disregarding any subsequent legislation. In addition, the government made specific undertakings as regards taxation and exchange control legislation. While any part of the ZIMCO bonds were outstanding, the overall rate of tax payable by RCM and NCCM would not be increased, and dividends paid by them would be free of Zambian taxation, as would all payments arising from the ZIMCO bonds. Provisions relating to capital allowances and to tax treatment of exploration expenditure would also remain unchanged. Bond repayments, interest payments, dividends payable to non-Zambian shareholders, and sales and management contract fees would all be exempt from exchange control.

Breach of any aspect of these arrangements by the Zambian government (including the management contracts) would make all the ZIMCO bonds due and payable immediately.

The impact of the Take-over

To what extent did these terms allow realisation of the Zambian government's objectives? On one level, its aim was to acquire an income-generating asset free of financial cost, and thus it hoped to pay for its shareholding out of future profits. In the event, the ZIMCO bonds were redeemed.

102 These provisions were contained in the Income Tax (Amendment) Act 1970.
in September 1973 (see p. 213 below), and so it is impossible to state with certainty whether that hope would have been realised. It is possible to compare what ZIMCO's liabilities to AAC and RST would have been had the bonds not been redeemed with the dividends which the government has actually received from NCCM and RCM, and this is done in Table 7, for the period 1970-8. The data probably gives an accurate picture of what would have happened had the Take-over arrangements run their course, since the failure of RCM and NCCM to pay dividends after 1974 reflected their inability to generate operating profits rather than any change of investment policies following the bond redemption.

Table 7 indicates that the government was mistaken in its belief that its shareholdings could be paid for out of future profits; if the projections in the Table are accurate, it would have had to pay about K60 million in compensation from other sources. The government's expectations as to the copper industry's profitability were disappointed for three main reasons. First, production costs rose rapidly over the period 1970-7; costs at the mine increased by 96 per cent in RCM's case and 84 per cent in NCCM's, while average

103 Both RCM and NCCM incurred operating losses in 1975/6 and 1977/8 and generated small operating profits in 1976/7.

104 NCCM might of course generate sufficient profit in the years 1979-82 to compensate for earlier losses, but transactions involving RCM would have been completed by 1978, and Table 7 indicates that these would have resulted in a loss to government of K37,735,000.

Table 7
Direct Financial Impact of the 1969 Take-over on the Zambian Government,
1970-3 (Actual) and 1974-8 (Estimated) (K'000's)

<table>
<thead>
<tr>
<th>Year</th>
<th>MINDECO's Dividend Entitlement</th>
<th>RCM</th>
<th>ZIMCO's Liability</th>
<th>Balance</th>
<th>MINDECO's Dividend Entitlement</th>
<th>ZIMCO's Liability</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>7,653</td>
<td>6,800</td>
<td>+ 853</td>
<td>39,270</td>
<td>22,650</td>
<td>108,800</td>
<td>- 37,735</td>
</tr>
<tr>
<td>1971</td>
<td>11,225</td>
<td>13,600</td>
<td>- 2,375</td>
<td>-</td>
<td>15,100</td>
<td>6,830</td>
<td>+ 6,360</td>
</tr>
<tr>
<td>1972</td>
<td>10,459</td>
<td>13,600</td>
<td>- 3,141</td>
<td>17,850</td>
<td>15,100</td>
<td>130,930</td>
<td>- 15,100</td>
</tr>
<tr>
<td>1973</td>
<td>15,816</td>
<td>13,600</td>
<td>+ 2,216</td>
<td>26,520</td>
<td>17,680</td>
<td>15,100</td>
<td>- 8,840</td>
</tr>
<tr>
<td>1974</td>
<td>22,588</td>
<td>15,059</td>
<td>+ 7,529</td>
<td>21,930</td>
<td>15,100</td>
<td>15,100</td>
<td>+ 6,830</td>
</tr>
<tr>
<td>1975</td>
<td>3,324</td>
<td>13,600</td>
<td>- 10,276</td>
<td>-</td>
<td>15,100</td>
<td>15,100</td>
<td>- 15,100</td>
</tr>
<tr>
<td>1976</td>
<td>-</td>
<td>13,600</td>
<td>- 13,600</td>
<td>-</td>
<td>15,100</td>
<td>15,100</td>
<td>- 15,100</td>
</tr>
<tr>
<td>1977</td>
<td>-</td>
<td>13,600</td>
<td>- 13,600</td>
<td>-</td>
<td>15,100</td>
<td>15,100</td>
<td>- 15,100</td>
</tr>
<tr>
<td>1978</td>
<td>-</td>
<td>5,341</td>
<td>- 5,341</td>
<td>-</td>
<td>15,100</td>
<td>15,100</td>
<td>- 15,100</td>
</tr>
<tr>
<td>Totals</td>
<td>71,065</td>
<td>108,800</td>
<td>- 37,735</td>
<td>105,570</td>
<td>130,930</td>
<td>- 25,360</td>
<td></td>
</tr>
</tbody>
</table>

Source: Figures for ZIMCO's liabilities were obtained from M. Bostock and C. Harvey, op.cit., p.228; figures for dividend entitlements were derived from NCCM, Annual Reports, 1971-8 and RCM, Annual Reports, 1970-8.

Notes: * Payments would have terminated in 1978.
** Payments would have continued until 1982
+ NCCM did not issue separate financial results for 1970 and so the figures for 1970 and 1971 have been combined. NCCM would not have been subject to accelerated compensation payments in either of these years as the relevant clause did not become effective until 1972.
++ Accelerated compensation payments would have been called for in these years.
transport costs rose by 40 per cent.\textsuperscript{106} Second, the period 1974-8 was characterised by a prolonged trough in copper prices. Finally, production levels were adversely affected by bottle-necks in transport routes, shortages of skilled personnel, and a disastrous cave-in at Mufulira, RCM's largest mine, in October 1970. In fact production levels fell after 1969,\textsuperscript{107} whereas substantial increases had been hoped for.

The Zambian government could not have predicted these developments, but it could have allowed for unforseen circumstances: depressed prices, rising production costs, and natural disasters were no strangers to the mining industry. Specifically, the government could have negotiated a clause allowing for postponement or deceleration of compensation payments in years of low or no profits,\textsuperscript{108} corresponding to the shareholders' right to obtain accelerated compensation when profits were high. The absence of such a provision represented a serious weakness in the Take-over arrangement.

The profitability of the operating companies was also relevant to the balance of payments impact of the Take-over. It was felt that a high proportion of profits would flow out of Zambia if private ownership continued; on the assumption that profits would exceed compensation payments, outflow of these payments would not therefore represent a drain on the balance of payments.\textsuperscript{109} In the event, not only was that assumption not justified, but the factors responsible (low

\textsuperscript{106} Zambia Mining Year Book, 1971, p.43 and 1977, p.31.

\textsuperscript{107} See Table 6.

\textsuperscript{108} Bostock and Harvey have suggested a number of ways in which such a provision could have been formulated: op.cit., pp.174-5.

\textsuperscript{109} A. Martin, op.cit., p.159.
prices, production shortfalls, higher production costs) themselves adversely affected the balance of payments. Consequently the outflows of foreign currency created by compensation payments exercised a proportionately greater impact.

By purchasing equity on the terms it did the government added to the risks inherent in dependence on the copper industry - compensation payments would further reduce government revenue in times of low prices or other adverse conditions, and would exacerbate the impact of such conditions on the balance of payments. However, over the years 1964-9 Zambia had experienced no difficulties in balancing its external transactions, and by 1969 had accumulated substantial foreign currency. Its public revenues had exceeded all current and capital government expenditure in each year except 1968. It could therefore be argued that the government could well afford to take such risks if they offered the prospect of achieving a central policy goal - national control of the copper industry.

The earlier outline of the Take-over terms indicates that the Zambian government failed to achieve that goal, as an examination of their implications for the areas of potential corporate-government conflict discussed above reveals.

110 Changes in production costs are relevant in this context because a high proportion of mining industry inputs are imported.


113 M. Bostock and C. Harvey, op.cit., p.167.
The position as regards purchasing policies would remain essentially unchanged, since AAC and RST would retain responsibility for purchasing outside Zambia. Neither did the government obtain a significantly greater degree of control over the crucial area of investment policies. Changes in accounting procedures implemented in 1970 prevent a detailed comparison of corporate investments before and after that year, but the general trend is clear. As mentioned above, over the period 1964-8 the AAC group mines made total capital expenditures equal to 39 per cent of net profits as defined by accounting procedures employed after 1970 (see p. 181); the equivalent figure for NCCM in the period 1971-4 was 44 per cent, by no means a spectacular increase. Even this increase cannot be attributed solely to the Take-over.

Nearly a quarter of NCCM's capital expenditure during this period was on the Tailings Leach Plant at Chingola. This development resulted from the discovery in 1968/9 by AAC staff of new methods for recovering copper from mine tailings, at costs which were less than half the average for the group mines. Use of the new techniques offered the prospect of very high returns on investment, a prospect which AAC would have been unlikely to ignore, especially given the favourable changes in Zambia's tax regime. Thus this

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114 As mentioned above, prior to 1970 the mining companies charged capital expenditures designed to maintain production against revenue. The Annual Reports of the individual companies did not give a breakdown of charges against revenue (see, for example, Nchanga Consolidated Copper Mines, Annual Report, 1966). Consequently it is impossible to gain an accurate picture of capital expenditures by individual mines.

115 In 1977, for example, production costs at the tailings leach plant were below K300 per tonne, while average costs for the NCCM mines were K752 per tonne. Interview with NCCM official, Chingola, 27 July 1978; NCCM, Annual Report, 1977, p.27.
additional expenditure would probably have occurred regardless of the Take-over.

Comparable investment figures are not available for RST, but it is significant that RCM distributed a higher proportion of its net profits in dividends over the period 1971-4 than RST did during the years 1964-8 (54 as against 50 per cent), while its reinvestment rate was low even in comparison to AAC's in the period prior to the Take-over (32 as against 39 per cent). It is evident, therefore, that the Take-over failed to bring about a major increase in the proportion of profits being reinvested. There were two aspects to this failure. The first involved the provision in RCM's and NCCM's Articles of Association calling for distribution of all profits 'after deduction only in respect of capital expenditure, expenditure for exploration and prospecting, and reserves for necessary working capital'. A high dividend level was of course essential if the government was to make its compensation payments; but the outcome was that profits could not be accumulated for investment at a later date. Yet this would have to be done if reinvestment rates were to increase substantially, as some years would elapse between initiation of capital projects and the phase of major capital expenditures.

The level of current investment was nevertheless flexible; however, the management contracts gave the minority shareholders considerable influence in this area. They carried

117 Derived from RCM, Annual Reports, 1971-4.
118 The Tailings Leach Plant at Chingola, for example, was initiated in 1970, while the period of major capital expenditures was 1973-5.
out project evaluation and capital expenditure estimates and were thus responsible for assessing the viability of individual investments. Those considered unviable could be vetoed by the 'B' directors. On the other hand, its powers to appoint directors might have enabled the government to critically analyse such assessments, if the individuals involved were adequately qualified and could draw on relevant expertise from an independent source. As we shall see, these conditions were to be fulfilled, but the reinvestment figures quoted above indicate that the formal constraints were too powerful for this to make very much difference.

Neither did the new arrangement give the government a significantly greater say in Zambianisation policies. No provisions relating to Zambianisation were included, other than that the companies supplying management and other services would provide 'suitable experience' to employees of RCM and NCCM. The Managing Directors of the operating companies would retain complete discretion in employing, promoting, and dismissing staff.

As regards the possibility of over-invoicing, the presence of government directors might increase the flow of relevant information and force management to justify its choice of suppliers and the prices paid for major purchases; once again, the calibre of the government's appointees would be all-important. The ability of government directors to monitor the conduct of mining operations would be more problematic, since they would be unlikely to possess the necessary specialised technical knowledge. It is one thing to question whether an item has been purchased at the best
available price, quite another to question, for example, whether cut-off grades begin applied in a particular mining situation are appropriate. However, if the government developed some expert capacity in this area the situation might be different. Finally, the government's position as majority shareholder might enhance its ability to ensure that corporate wage, employment, and pricing policies were in line with national economic and social goals, but the power of the 'B' directors to veto any action not designed to optimise profit or production could restrict that ability. AAC and RST would hardly have refused to adopt policies which did not affect their profitability in any case, while they could now reject policies which would have that effect.

In order to obtain its shareholding, the government also temporarily surrendered control in areas where it had previously exercised jurisdiction, particularly in the field of taxation and exchange control legislation. In addition, it allowed its freedom to be circumscribed in a more general way. If it was in breach of any aspect of the arrangement, all ZIMCO bonds would become payable immediately, and the minority shareholders could refer the dispute to the International Council for the Settlement of Investment Disputes (ICSID). The ICSID is supported by international financial institutions such as the World Bank and the IMF, who might well insist that Zambia abide by any ICSID ruling as a condition of granting it loans or other forms of assistance.  

119 As Mark Bostock and Charles Harvey have commented, the mining companies thus ensured 'that their own private agreement is an inseparable part of the whole complex of Zambia's international financial arrangements'. M. Bostock and C. Harvey, op. cit., p.151.
The influence of the minority shareholders might be less in practice than would appear from an analysis of the formal arrangements. They would possess a strong incentive to retain the goodwill of the Zambian government, both in order to protect their remaining investments and to ensure that ZIMCO would honour its financial obligations. Repeated use of their veto would certainly undermine that goodwill, and it would probably only be used in extreme circumstances. On the other hand, the ultimate power of decision-making remained with the foreign investors, who would also wield significant influence over the day-to-day decision-making process, because of the legal and other constraints contained in the Take-over arrangements.

Legislative initiatives, 1969-70

The Take-over was accompanied by major changes to legislation governing mineral rights and taxation. In general terms, the initiative on mineral rights was clearly appropriate, since it opened up new areas for exploration and ensured that existing right-holders would either pursue serious prospecting programmes or abandon their claims. A substantial number of foreign mining companies expressed interest in the areas released, and some undertook major exploration programmes. Certain of these were for minerals other than copper (mainly uranium and diamonds), and covered areas away from the line-of-rail,\(^{120}\) both significant

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\(^{120}\) Republic of Zambia, Geological Survey Department, Map of Prospecting, Exploration and Mining Licence Areas (Government Printer, Lusaka, 1976).
developments given the government's desire to reduce the
dominance of copper mining and to foster rural development.
The search for radioactive minerals has already met with
some success, and the government has recently signed agreements
with Agip of Italy and Saarberg Interplan of West Germany
for development of uranium deposits.\textsuperscript{121}

A more specific issue involves the requirement on
applicants for prospecting licences to offer the State a
51 per cent share in any mining venture which might eventuate.
This requirement represents a basic element of government
policy which some companies may find unacceptable, but
in addition the \textit{manner} in which it is framed may itself act
as a disincentive to exploration. The State decides whether
it will exercise its option when and if a mining lease
is applied for; if it does so, it then pays its full share
of prospecting and exploration costs.\textsuperscript{122} But if the prospecting
effort fails, the State incurs no liability; it avoids the
initial risk, but benefits from any successes. In justifying
this approach, the government argues that it should not invest
Zambia's limited financial resources in high risk activities,
and should consequently leave prospecting to private companies.
This argument may be valid in theory, but in practice it may
not be possible to attract private investors unless the State
accepts some of the initial risk, and in fact MINDECO has
become directly involved in exploration ventures on a number
of occasions.\textsuperscript{124}

\textsuperscript{121} \textit{Mining Journal}, 13 April 1979, 11 May 1979.
\textsuperscript{122} M. Ndulo, \textit{op.cit.}, pp.408-9.
\textsuperscript{123} Republic of Zambia, \textit{Second National Development Plan,
\textsuperscript{124} For example with Noranda Mines Ltd. and Geomin.
Before examining the 1970 tax legislation, two points should be made. First, despite the Take-over, it was hoped that private investment would continue to play a major role in mineral development, as evidenced by the heavy reliance on private exploration companies. Second, the operating companies would continue to function on commercial lines, and would assess potential investments accordingly. In other words, investment decisions crucial to the mining industry would continue to reflect perceptions of likely profitability, which in turn would be influenced by the extent and character of taxation.

Under the new tax regime, all taxes are based on profits, and this removes the more obvious anomalies of the old system: less profitable mines no longer pay higher effective tax rates than more profitable ones, taxes cannot exceed profits, and unprofitable mines cannot be taxed. The 'reforms' of 1969-70 also removed a great deal of the uncertainty which had surrounded the whole area of taxation, an important prerequisite if investment was to expand. However, the new system has one important drawback.

Application of such a high flat rate of tax (73.05 per cent) will certainly act as a disincentive to private mining investment. The new rate is almost equal to the marginal rate under the old system (74.42 per cent for rises in the copper price above K600 per long ton), and substantially higher than the average rate applied over the period since

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125 Clearly such companies would only explore in the expectation of playing a major role in developing any discoveries. In any case, Zambia lacked the technical and financial resources to undertake major developments alone.
Independence (62 per cent for the AAC group mines). The 1970 legislation did allow investors to recoup their initial outlays before tax was applied, but because of the high tax rate it would probably take a considerable period of time for those outlays to generate a significant return. Andrew Gordon has quoted the example of a mine constructed over three years and subsequently earning annual profits equal to 35 per cent of total capital expenditure. Recoupment of capital together with interest at 12 per cent on the unrecouped balance would not be achieved until the 10th year of operations; with interest at 15 per cent, not until the 20th year. Given the relatively short term horizons of investors in Central Africa, the deterrent effect of such a system must be significant.

That effect would be proportionately greater where profits were in any case expected to be slim because of factors such as low ore grades or geographical isolation, a point which might apply equally to new mines or to certain parts of existing ones. The government might logically disregard the likely effects of the tax system on marginally profitable operations if its only concern was with revenue generation. It is in fact anxious to see such operations proceed because of the direct economic benefits they are expected to create.

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126 R. Sklar, op.cit., p.54, n.61.

127 All capital expenditure could be written off immediately against revenue in calculating profits, and losses could be carried forward indefinitely. These provisions were altered in 1973 (See below, p.213).

and an appropriate tax system should clearly take this requirement into account. In theory the new system does so, in two ways.

First, mineral tax (but not income tax) can be reclaimed to the extent that the return on equity falls short of 12 per cent. In practice, this provision is unlikely to have a significant impact on investment decisions, as the rate of return it 'protects' is unlikely to approach that required by foreign investors, especially since major mineral developments in Zambia are likely to have a fairly high debt : equity ratio. A return of 25 per cent on equity has been quoted as 'reasonable' for a project with a 1 : 1 debt : equity ratio, a low ratio by current standards.

Second, the Zambian government stated that it would negotiate lower tax rates for specific projects which would otherwise not be viable. While they might encourage

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129 The Second National Development Plan states that mineral development is needed 'to increase employment opportunities, Government revenue, foreign exchange earnings, and development of rural areas' (p.85).


131 The higher the debt:equity ratio, the greater the risk borne by the equity investor, and hence the greater his minimum expected rate of return.


133 The debt:equity ratio for the Bougainville project was 2.1:1, that for the Navan zinc/lead mine was 8:1.

development of marginal prospects which were discovered, discretionary provisions of this type are unlikely to have a significant impact on companies contemplating exploration, since they would not know in advance how eligibility would be determined or precisely what concessions would be available.

In sum, the revised tax system ensures that the Zambian government will continue to reap substantial benefits from existing, profitable mines but, though it removes some major faults of the old system, it continues to deter investment in new projects (particularly marginal ones), in working of lower-grade ores in existing mines, and particularly in exploration. It does not appear to reflect any serious attempt to reconcile Zambia's need for revenue with its need for continued exploration and investment.

This judgement may seem harsh, since significant exploration has taken place under the new system, and since a number of potential projects are now being assessed. However, a closer examination of the companies involved indicates that their investment decisions may be influenced by considerations which are not strictly commercial. Three of the most active groups, including both the companies which have signed development agreements, are state agencies of European countries (France, Germany and Rumania). All three have been seeking uranium, and their involvement in Zambia has been motivated by the desire of their home governments to secure reliable supplies of energy minerals rather than by expectations of profitable investment. One of the most

135 This is illustrated by the case of Agip, for example, which has agreed to pay Zambia at least 10 per cent of the value of uranium production even if its operations turn out to be unprofitable. Mining Journal, 13 April 1979.
active private companies, De Beers, holds a monopoly position in the world diamond industry; a representative of the company informed the author that its search for diamonds in Zambia was motivated primarily by its determination to preserve that monopoly, and that it would not wish to develop any discoveries it might make under the existing fiscal regime. It seems therefore that few foreign investors find Zambia an attractive location on purely commercial grounds, yet it is on these grounds that investment in copper and other base metals must be sought.

The Zambian government's negotiating effort

The initiatives of 1969-70 failed to resolve either of the major issues which concerned the Zambian government—control of the mining industry and taxation and investment. In addition, there were significant drawbacks to the manner in which the government obtained its majority shareholding. Major weaknesses clearly still existed in the formulation and implementation of mineral policies. Some of these resulted from the timing of the Take-over. As mentioned above, short-term political considerations hastened its announcement. Very little detailed preparation had been undertaken beforehand, and only some half a dozen of Dr Kaunda's closest associates even knew that a take-over was planned. Once the announcement was made, the government was anxious to

136 Interview with Director, Anglo American Central Africa Ltd., Lusaka, 1 August 1978.
137 A. Martin, opc.it., p.156.
conclude negotiations rapidly to prevent uncertainty among investors and expatriate mineworkers; the whole process of preparation and negotiation took place over a period of only ten weeks.\textsuperscript{138}

As a result there was little opportunity to identify policy aims, establish priorities, and select policies designed to achieve their implementation; indeed there was not even time to develop institutional structures within which these processes could take place, or to assemble a body of individuals capable of carrying them out. The government's negotiators were consequently at a serious disadvantage. The failure to establish priorities meant that they were pursuing a wide variety of aims, not all of them mutually consistent and relating, for example, to revenue generation, investment policies and production rates, corporate decision-making, and the extent and character of compensation. They were also at a tactical disadvantage since they had little opportunity to develop their own bargaining positions, and had to react to those of the companies.\textsuperscript{139}

The time constraint does not explain the failure to devise a more appropriate tax system, since the new legislation was prepared well in advance. Clearly, Zambia's politicians were not yet convinced of the need to devise workable tax legislation which would encourage mining investment, probably because they believed that the copper industry would

\textsuperscript{138} Dr Kaunda delivered his Matero speech on 11 August; agreement in principle on all the major issues was reached by 18 October.

\textsuperscript{139} A. Martin, op.cit., p.167.
continue to operate profitably and to expand production while subject to high levels of taxation, as it had done under the colonial regime. This belief might have been dispelled by a competent advisory staff whose advice was taken seriously, but such a group did not exist.

The efficacy of the advisory staff was of course important to the whole negotiating effort, and it is apparent that important deficiencies existed in this area. As in the earlier period, the staff was diverse in origin (it included Britons, Chileans and Eastern Europeans), and the perspectives and assumptions of its members frequently differed, as did the advice they offered.\textsuperscript{140} Staff members did not enjoy close liaison with senior politicians, partly because there was insufficient time either for suitable institutional structures to be established or for mutual confidence to develop. Racial differences may also have created a barrier; many senior politicians were still reluctant to trust white advisers, particularly when dealing with European-owned mining companies.\textsuperscript{141} In this context, the absence of suitably-qualified Zambian advisers takes on added significance. That absence resulted partly from a general scarcity of educated personnel, but it also reflected the government's failure to allow senior administrative staff greater stability of tenure, or to devise an effective institutional framework within which they could operate.

\textsuperscript{140} Interview with Anthony Martin, Port Moresby, 8 June 1978. The Eastern Europeans, for example, apparently failed to realise that the operation of a free market for copper imposed important constraints on the government's freedom of action.

\textsuperscript{141} Interview with Anthony Martin, Port Moresby, 8 June 1978.
Thus the government lacked either the opportunity or the capacity to formulate and pursue policies appropriate to Zambia's circumstances. In consequence it tended either to follow the lead of other LDC copper producers or simply to opt for the status quo. Its decision to seek control of the industry by acquiring majority ownership, for example, was influenced by the earlier Chilean decision to do so. Yet Chile's circumstances were very different - a high proportion of technical and managerial positions in its copper industry were held by Chileans, while its government had developed a wealth of expertise regarding the industry. In the field of taxation, the Zambians opted for the status quo in its crudest form - it simply enshrined the marginal tax which had prevailed over a short (and atypical) period prior to the Take-over.

It is of course possible that the Zambian government's bargaining power was essentially weak and would have remained so even if adequate preparations had been made. Copper production could not be maintained without the cooperation of the AAC and RST, who effectively possessed a monopoly of skilled labour, and thus were certainly in a strong bargaining position. However, it is evident from the discussion above that certain of the government's failures could have been remedied. Nevertheless, an important question does remain - given the corporate monopoly of mining skills, was it appropriate for Zambia to pursue control of the

142 A. Martin, op.cit., p.159.


144 It may or may not be coincidental that the total tax rate applied to mining companies in Chile in 1969 was also 73 per cent. N. Girvan, *Copper in Chile*, p.30.
copper industry in the manner it did? This issue will be discussed in the next Chapter.

Conclusion

At Independence, Zambia's political leaders inherited an economy utterly dependent on an industry about which they knew very little. Their initial reaction was to maintain the status quo, lest any action on their part jeopardise the vital mining industry. This approach had one important advantage – existing copper mines continued to operate and to generate very substantial revenues (some K360 million over the period 1964/5-1969), with which the government could finance its development effort. It also had an important disadvantage – it ignored the fact that positive action was required if the mining industry's long-term need for continued investment was to be met.

The need for such action was not adequately recognised at any stage during the post-Independence period, for various reasons. The government was under considerable pressure to maximise revenues in the short term to meet Zambia's urgent need for massive public investment, and the longer-term implications of taxation policies tended to be ignored. Many politicians distrusted and disliked the mining industry, making them reluctant to grant the 'concessions' without which private investment would not be forthcoming. This attitude was understandable, given that the industry's growth had been inextricably linked with the establishment of a state which for half a century discriminated against its demographic patterns.

African inhabitants in economic, political and social terms. However, it did much to inhibit a logical approach to mineral policy formulation. Also important in this regard was the absence of an effective advisory staff and of a suitable institutional framework for policy-making.

Because such an approach was lacking, and because of changed circumstances within the copper industry itself, the private mining companies were unwilling to commit funds on the scale required if the government's plans for expansion were to be met. For this and for other economic, political and ideological reasons, the Zambian Government sought control of the mining industry, but the take-over arrangements it negotiated did not allow it to achieve many of its basic policy aims. This failure was partly due to the timing of the government's initiative, which was determined by short-term political considerations, while weaknesses in the policy-making process again played a part.

146 Thus when President Kaunda delivered his Matero speech, his scathing indictment of Cecil Rhodes' grand imperial schemes for Central Africa and his derision of the copper companies' new-found concern with royalties brought thunderous applause, but had very little to do with the cold realities of investment and production.
Chapter Five

NATIONAL versus CORPORATE CONTROL OF MINERAL RESOURCES: THE ZAMBIAN COPPER INDUSTRY, 1964-78.

The redemption of the ZIMCO Bonds.

The Zambian government quickly came to realise the weaknesses of the 1969 Take-over arrangements, and in August 1973 announced their amendment. The outstanding ZIMCO bonds would be redeemed immediately, and the minority shareholders would therefore lose their immunity from changes to taxation and exchange control legislation. The government took advantage of this situation to end the immediate write-off of capital expenditure allowed by the 1970 tax laws, and to impose a withholding tax of 20 per cent on dividends payable to foreign shareholders.

Redemption of the bonds did not allow the government to unilaterally alter the management and other contracts or RCM's and NCCM's Articles of Association. Negotiations were undertaken with AAC and American Metal Climax (AMAX) (the principal minority shareholder in RCM), and it was agreed that the management, sales and purchasing contracts would be terminated. The government would establish a state company to market Zambia's copper, while the operating companies, RCM and NCCM, would become self-managing. However AAC and AMAX would continue to second senior

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1 RST International merged with AMAX in 1970.
technical and managerial personnel and to supply, on request, certain services which NCCM and RCM could not themselves provide. The Articles of Association of RCM and NCCM were amended so as to weaken the powers of the minority shareholders. In particular, the requirement for separate votes of 'A' and 'B' shareholders and directors on certain specified issues was removed. However, it was provided that a quorum which would include two 'B' directors would have to be present before the Boards of Directors could take decisions on a (more limited) range of issues. These included the raising of loans and participation in non-mining activity, but excluded appropriations for capital or exploration expenditure and amendment of the companies' Articles of Association. Thus AAC and AMAX did not entirely lose their power of veto, since the 'B' directors could absent themselves and block certain initiatives, but its range was narrowed and the ability of the 'A' directors to further amend the Articles of Association would make its frequent use very unlikely. The 'B' directors also ceded the right to choose the Managing Directors of NCCM and RCM to the government.

The financial cost of these changes was high. In order to redeem the ZIMCO bonds, the government raised two Eurodollar loans totalling US$150 million, at interest rates well above those borne by the ZIMCO bonds. In addition,
it paid K33 million to AAC and K22 million to AMAX in compensation for early termination of the various contracts.

Once again, the principal motivation for the government's initiative was the search for control. First, it was frustrated by the limitations on its power to amend taxation and exchange control legislation. The immediate write-off of capital expenditure meant that effective tax rates were low; for example, RCM paid only 19 per cent of its profits in taxation in 1972, NCCM 23 per cent in 1973,\(^5\) as opposed to the nominal rate of 73 per cent. Tax liability was of course only being postponed, but the prospect of the mining companies paying low rates of tax was politically unpalatable, especially since prices and profits were on the increase after a number of lean years (1970-72).\(^6\) In addition, the capital allowances had been granted to encourage expansion of copper production, but as yet there was little evidence that they were having the desired effect.\(^7\) (The low tax rates mentioned above resulted from write-off of capital expenditure designed to maintain production.) The whole question of investment policies was in fact still unsettled; in announcing the redemption of the ZIMCO bonds, President Kaunda asserted that the minority shareholders had used their powers to


\(^6\) In 1972/3, for example, NCCM's tax rate of 24 per cent was charged on profits of K100 million.

\(^7\) See Table 6.
ensure that a high proportion of profits would continue to be distributed, and that loans would be used to finance what development did occur.  

The government was anxious to amend exchange control provisions so it could capture part of the substantial dividends then flowing to foreign investors. It expected to obtain an additional source of revenue by marketing Zambia's copper; it now felt competent to perform this function, and saw no reason why marketing fees (which amounted to about K4.5 million in 1972/3) should accrue to AAC and AMAX.

The government was also concerned with a number of non-financial matters. It had envisaged in 1970 that the management companies would gradually transfer managerial functions to RCM and NCCM, but this had not occurred to any great extent. In addition, it felt that the management companies had failed to amend their purchasing policies so as to reduce imports from South Africa. Finally, it was concerned with the slow pace of Zambianisation.

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9 Over the period 1971-73, foreign shareholders received a total of K96 million in dividends. RCM and NCCM, Annual Reports, 1971-3.

10 Interview with Department of Finance Official, Lusaka, 1 August 1978.

11 This figure equals .75 per cent of the gross value of metal sales by RCM and NCCM.

12 Interview with Department of Finance Official, Lusaka, 1 August 1978.
This discussion raises once again the question of whether Zambia's interests were in fact in conflict with those of the foreign shareholders. In the following sections, the economic impact of copper mining is analysed, and this analysis should provide some relevant empirical evidence.

Generation of government revenue.

As Table 8 illustrates, copper mining is an extremely important, though unstable, source of government revenue, accounting for 46 per cent of total revenue over the years 1964-75. This figure does not fully reflect the copper industry's significance, since it excludes employee and indirect taxation and revenue generated by ancillary and service industries dependent on copper mining.

Principally because of price fluctuations, copper revenues are extremely unstable, even over short time periods. For example, revenue was K57 million in 1964 and K163 million in 1966, K251 million in 1970 and K56 million in 1972. This instability causes serious economic problems. Since revenue fluctuations are unpredictable, government cannot plan appropriate levels of expenditure in advance.

Information is not available regarding these items, but they are probably substantial. In 1973, for example, employee taxation amounted to K44 million and customs duties to K38 million, and mining activity certainly accounted for a significant proportion of both.

Zambia's Financial Reports show that huge discrepancies frequently exist between budget estimates of mineral revenues, compiled early in the financial year, and revenue actually received in the same year. See, for example, Financial Report, 1971, Schedule B, and 1974, Schedule B.
### Table 8

Direct Government Revenue Generated by the Copper Industry

1964-1978 (K million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Copper Revenue (A)</th>
<th>Total Revenue (B)</th>
<th>(A) as % of (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>57</td>
<td>108</td>
<td>53</td>
</tr>
<tr>
<td>1965</td>
<td>134</td>
<td>189</td>
<td>71</td>
</tr>
<tr>
<td>1966</td>
<td>163</td>
<td>255</td>
<td>64</td>
</tr>
<tr>
<td>1967</td>
<td>146</td>
<td>276</td>
<td>53</td>
</tr>
<tr>
<td>1968</td>
<td>183</td>
<td>306</td>
<td>60</td>
</tr>
<tr>
<td>1969</td>
<td>237</td>
<td>401</td>
<td>59</td>
</tr>
<tr>
<td>1970</td>
<td>251</td>
<td>435</td>
<td>58</td>
</tr>
<tr>
<td>1971</td>
<td>114</td>
<td>316</td>
<td>36</td>
</tr>
<tr>
<td>1972</td>
<td>56</td>
<td>302</td>
<td>19</td>
</tr>
<tr>
<td>1973</td>
<td>108</td>
<td>385</td>
<td>29</td>
</tr>
<tr>
<td>1974</td>
<td>341</td>
<td>647</td>
<td>53</td>
</tr>
<tr>
<td>1975</td>
<td>59</td>
<td>448</td>
<td>13</td>
</tr>
<tr>
<td>1976</td>
<td>12</td>
<td>443</td>
<td>3</td>
</tr>
<tr>
<td>1977</td>
<td>-</td>
<td>498</td>
<td>-</td>
</tr>
<tr>
<td>1978</td>
<td>-</td>
<td>533</td>
<td>-</td>
</tr>
<tr>
<td>Totals</td>
<td>1,861</td>
<td>5,542</td>
<td>34</td>
</tr>
</tbody>
</table>

Source: *Zambia Mining Industry Year Book*, various issues.
And once a particular level of expenditure has been planned, major difficulties arise in adjusting it downwards or upwards to take account of the revenue which actually materialises. It is difficult to adjust capital spending upwards quickly, since long lead times usually occur between planning and implementation of capital projects; a similar difficulty arises with certain categories of current expenditure, because many sectors of Zambia's economy are characterised by bottlenecks in supply and inelasticities in demand.\(^\text{15}\) On the other hand, hastily implemented cuts in capital expenditure may be wasteful, since resources already committed to uncompleted projects may be lost; cuts in current expenditure may be politically hazardous, particularly if they affect wages, food subsidies, or social services.

As a result of this situation, the government must often accumulate cash reserves in times of high prices, and resort to deficit financing when revenues contract. If prices are depressed for an extended period of time, deficit financing imposes an unacceptable burden, and expenditure must be cut. Thus by 1977, for example, outstanding public debts had reached K950 million, with annual repayments estimated at K88 million and interest at K49 million,\(^\text{16}\) together equal to 28 per cent of total recurrent revenue in that year. The government was compelled to reduce current

\(^{15}\) See C. Elliott, op.cit.

\(^{16}\) Derived from *Mining Journal*, 24 February 1978. A conversion rate of 1 Kina = £0.69 sterling was used in calculating these figures.
and capital expenditure, and in an economy where maintenance of employment and investment levels depends heavily on government expenditure, such action clearly has serious consequences.

In the longer term, perhaps the most serious effect of revenue fluctuations may be to undermine the attempt to deal with the underlying problem, Zambia's dependence on copper mining. That attempt must include steadily-expanding investment in agriculture and industry, but revenue fluctuations make it extremely difficult to sustain such investment.

Have foreign mining companies removed profits from Zambian jurisdiction, depriving the government of revenue? Since Zambia's copper is sold to independent fabricators, what is involved is the possibility that subsidiaries of AAC and/or RST (AMAX after 1970) operating outside Zambia over-charged the Zambian companies for mining equipment or other supplies. Lack of empirical data makes it difficult to deal with this issue, but one general point should be made. Both mining groups would have to be involved if over-charging was to escape detection; otherwise a simple comparison of invoices would reveal what was happening. As far as could be established, AAC alone has major shareholdings in non-Zambian companies which produce inputs for mining.

17 The 1978 Budget provided for a decline in money terms of 4 per cent in current expenditure and of 14 per cent in capital expenditure.

18 At least two of AAC's wholly-owned subsidiaries manufacture mining equipment and supplies; AMAX does not appear to hold interests in any companies which do so. Anglo American Corporation of South Africa Limited, Annual Report, 1976, p.82-3; Mining Journal Limited, Mining Annual Review 1978, p.17-19, ('AMAX').
and there seems no reason why the RST group mines (or RCM after 1970) would transfer profits to AAC.

Thus while the opportunity for transfer pricing existed in theory, it seems unlikely that it occurred.

Generation of employment and wage payments.

Table 9 gives details of Zambian and expatriate employment in the copper industry over the period 1952-78. Mining employment is of considerable importance in national terms, accounting for 15 per cent of those in paid employment in 1975. Information regarding indirect employment is lacking, but the number employed in ancillary and service industries must be considerable.

A number of points emerge from the data in Table 9. Expatriate employment fell by 35 per cent in the four years after Independence, reflecting the rapid Zambianisation of semi-skilled and lower supervisory positions. It changed little over the period 1968-73, because Zambianisation proceeded much more slowly at higher skill levels. Thereafter, it fell substantially, by 30 per cent over the period 1973-8. This decline was not entirely due to Zambianisation; the mining companies were unable to find replacements for some of the expatriates who departed.\(^{19}\) Shortage of skilled expatriate staff has important consequences for the efficiency of mining operations, both immediately

\(^{19}\) For example, there was a net loss of 32 expatriate metallurgical engineers over the period 1973-7, while only 10 Zambians were available to replace them.
### Table 9

**Employment in the Copper Industry**

**Selected Years 1952-1970 and 1970-1978**

<table>
<thead>
<tr>
<th>Year</th>
<th>Expatriate</th>
<th>African</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>5,504</td>
<td>36,668</td>
<td>42,172</td>
</tr>
<tr>
<td>1956</td>
<td>7,067</td>
<td>37,533</td>
<td>44,600</td>
</tr>
<tr>
<td>1960</td>
<td>7,528</td>
<td>36,806</td>
<td>44,334</td>
</tr>
<tr>
<td>1964</td>
<td>7,455</td>
<td>38,097</td>
<td>45,552</td>
</tr>
<tr>
<td>1968</td>
<td>4,845</td>
<td>43,198</td>
<td>48,043</td>
</tr>
<tr>
<td>1970</td>
<td>4,375</td>
<td>44,094</td>
<td>48,469</td>
</tr>
<tr>
<td>1971</td>
<td>4,751</td>
<td>44,997</td>
<td>49,748</td>
</tr>
<tr>
<td>1972</td>
<td>4,600</td>
<td>46,245</td>
<td>50,845</td>
</tr>
<tr>
<td>1973</td>
<td>4,505</td>
<td>48,287</td>
<td>52,792</td>
</tr>
<tr>
<td>1974</td>
<td>4,392</td>
<td>51,736</td>
<td>56,128</td>
</tr>
<tr>
<td>1975</td>
<td>4,495</td>
<td>52,992</td>
<td>57,487</td>
</tr>
<tr>
<td>1976</td>
<td>4,060</td>
<td>53,082</td>
<td>57,142</td>
</tr>
<tr>
<td>1977</td>
<td>3,609</td>
<td>55,446</td>
<td>59,055</td>
</tr>
<tr>
<td>1978</td>
<td>3,245</td>
<td>53,437</td>
<td>56,682</td>
</tr>
</tbody>
</table>

**Sources:** Commission of Inquiry, 1966, Appendix XVI; Zambia Mining Year Book, various issues.
and in the longer term. It has contributed to the difficulties encountered in maintaining copper production in recent years, and its impact is likely to increase as time goes on (see p.272 below).

Various factors account for the high turnover among expatriates and the inability of the companies to find replacements. Particularly important is the lack of security offered by fixed-term contract employment; other factors are the politically unstable situation in Southern Africa, shortages of foodstuffs and other items in Zambia, urban violence, and delays in obtaining clearance for repatriation of savings and severance payments.

Table 9 also shows that Zambian employment grew by 11,300 between 1970 and 1977. The reasons for this increase are not immediately apparent. Zambianisation had some impact, but over the period 1973-7, for example, Zambian employment in those job categories subject to Zambianisation increased by only 1,376, while total Zambian employment grew by 7,159. Production did not increase over the period 1970-7 (see Table 6), while development work was at a substantially lower level in 1977 than in 1970.

20 As Table 6 indicates, copper production fell substantially between 1973 and 1978.

21 In 1978, turnover among expatriates was 35 per cent. Zambia Mining Year Book, 1978, p.32.

22 These were among reasons cited by expatriate staff interviewed at RCM's Mulfulira Division and NCCM's Chingola and Centralised Services Divisions, July-August 1978.

23 Derived from information supplied by MIMSU.

Only two explanations for the increase in Zambian employment present themselves. A deliberate policy of increasing such employment may have been pursued in the wake of the 1969 Take-over, either by adopting more labour-intensive mining techniques or simply by 'feather-bedding'. Government officials deny that this has occurred, but the only alternative explanation is that productivity has fallen, requiring expansion of the workforce to maintain production. Productivity would have to decline very substantially to necessitate such a large increase in employment, and there is no conclusive evidence that this has occurred.

Generation of employment on the Copperbelt has carried an opportunity cost in that labour has been withdrawn from subsistence farming, and in areas close to the mines agricultural activity has suffered severely. Those who migrated to the Copperbelt were of course given an opportunity to substantially increase their incomes.

As mentioned in the previous Chapter, employment policies were identified as another area in which corporate and national interests might clash. Zambia's mining industry could not have competed on the world market had it not been based on large-scale productive units using substantial

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26 The industry has certainly encountered difficulties in maintaining production, despite substantial capital investment, but this has been due largely to shortages of goods and services and of skilled labour, and in most cases unskilled or semi-skilled labour could not be substituted for the missing factors.

27 See below p. 249.
amounts of capital and applying a high level of technological expertise, and this placed a major constraint on the industry's potential for creating employment. Nevertheless, as R. E. Baldwin has demonstrated, significant changes have occurred in the precise nature of mining methods in line with shifts in the relative costs of semi-skilled labour, skilled labour, and capital, and these changes have exercised a significant impact on total employment. In the 1930s, for example, African semi-skilled labour was cheap in comparison to machinery and the skilled expatriate labour needed to operate and maintain it, and the mining companies adopted labour-intensive mining methods. In the late 1940s and the early 1950s, average African wages more than doubled, with the result that the cost of semi-skilled labour grew much more quickly than that of skilled labour and equipment. The companies responded by initiating a far-reaching mechanisation programme which allowed them to double production over the period 1952-60 without increasing their use of African (that is semi-skilled) labour (see Tables 6 and 9).

Were corporate employment policies in conflict with national interests? From the point of view of Zambia's

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28 For example, small scale productive units of the type operated by Africans in the pre-colonial period could not have competed with the giant open-pit mines of North America and Chile.

29 R. E. Baldwin, op.cit., Chapter 4.

30 ibid, p. 89-92.

31 Between 1949 and 1958, African earnings rose by 284 per cent, European earnings by 61 per cent; equipment costs increased by 100 per cent between 1947 and 1958. R.E.Baldwin, op.cit., p.96.
resource endowment, it might have been appropriate to maximise use of relatively plentiful semi-skilled labour and minimise use of scarce capital and skilled labour. However, this would not be so if additional government revenue could be generated by pursuing profit-maximising factor combinations and that revenue expended so as to create more employment than would result from pursuit of the (limited) opportunities for substitution of labour for capital in the mines. A judgement on the issue depends, therefore, on whether the mining industry was expected to contribute towards economic development by maximising direct employment or by providing revenues to fund government expenditures. As mentioned above, the Zambian government failed to come to grips with this issue, and it is therefore impossible to decide whether a conflict of interest existed.

Table 10 gives details of wage and salary payments in selected years over the period 1952-77. Table 11 compares average expatriate with average African incomes in the same years, and illustrates the huge income differentials which existed in the early and mid 1950s. These gradually narrowed as a result of pay increases won by African mineworkers and of the large-scale promotion of Zambians to more skilled positions after Independence. However, by 1977 the differential was still very large (8:1 in favour of expatriates). 32

32 The ratio had earlier fallen to 6:1. Two factors account for its subsequent increase. Additional incentives had to be offered to attract expatriates in 1975, and there was a large increase in the lower-skilled (and so lower-paid) element of the Zambian workforce in 1976/7.
Table 10

Wage and Salary Payments by the Copper Mining Companies, Selected Years 1952-1973 and 1973-1977 (K'000s)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Expatriates</th>
<th>Africans</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>16,512</td>
<td>6,307</td>
<td>22,819</td>
</tr>
<tr>
<td>1956</td>
<td>32,438</td>
<td>12,461</td>
<td>44,899</td>
</tr>
<tr>
<td>1960</td>
<td>32,521</td>
<td>18,992</td>
<td>51,513</td>
</tr>
<tr>
<td>1965</td>
<td>42,176</td>
<td>28,344</td>
<td>70,520</td>
</tr>
<tr>
<td>1968</td>
<td>36,822</td>
<td>56,157</td>
<td>92,979</td>
</tr>
<tr>
<td>1973</td>
<td>45,460</td>
<td>81,075</td>
<td>126,535</td>
</tr>
<tr>
<td>1974</td>
<td>51,533</td>
<td>93,309</td>
<td>144,842</td>
</tr>
<tr>
<td>1975</td>
<td>52,970</td>
<td>95,404</td>
<td>148,374</td>
</tr>
<tr>
<td>1976</td>
<td>54,409</td>
<td>112,412</td>
<td>166,821</td>
</tr>
<tr>
<td>1977</td>
<td>61,866</td>
<td>125,823</td>
<td>187,689</td>
</tr>
</tbody>
</table>

Source: Derived from R. E. Baldwin, op.cit., Table 4.4, p.90, and Commission of Inquiry, 1966, Appendix XVI; information supplied by MIMSU.

Note: * Figures for years prior to 1968 have been converted to Kwacha at the rate of £ sterling = 2 Kwacha.
### Table 11

**Average Expatriate and African Incomes on the Copper Mines,**

**Selected Years, 1952-1973 and 1973-1977 (Kwacha)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Expatriate ((A))</th>
<th>Average African ((B))</th>
<th>Ratio of ((A)) to ((B))</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>3,000</td>
<td>172</td>
<td>17 : 1</td>
</tr>
<tr>
<td>1956</td>
<td>4,590</td>
<td>332</td>
<td>14 : 1</td>
</tr>
<tr>
<td>1960</td>
<td>4,320</td>
<td>516</td>
<td>8 : 1</td>
</tr>
<tr>
<td>1965</td>
<td>5,871</td>
<td>716</td>
<td>8 : 1</td>
</tr>
<tr>
<td>1968</td>
<td>6,847</td>
<td>1,300</td>
<td>5 : 1</td>
</tr>
<tr>
<td>1973</td>
<td>10,091</td>
<td>1,679</td>
<td>6 : 1</td>
</tr>
<tr>
<td>1974</td>
<td>11,773</td>
<td>1,804</td>
<td>7 : 1</td>
</tr>
<tr>
<td>1975</td>
<td>11,784</td>
<td>1,803</td>
<td>7 : 1</td>
</tr>
<tr>
<td>1976</td>
<td>13,401</td>
<td>2,117</td>
<td>6 : 1</td>
</tr>
<tr>
<td>1977</td>
<td>17,142</td>
<td>2,269</td>
<td>8 : 1</td>
</tr>
</tbody>
</table>

**Source:** Tables 21 and 22
Creation of additional economic activity through linkage development.

Forward linkage: Almost all of Zambia's copper production is integrated to the refining stage. Copper fabricating industries have not been established, with the exception of a small plant which produces copper wire and cable for the domestic market and absorbs less than 0.5 percent of total copper output.

Copper fabrication could create important benefits for Zambia, particularly by generating additional employment and higher and more stable foreign exchange receipts. However, economic constraints severely limit Zambia's potential in this regard, the most significant of which arise from Zambia's distance from the principal consuming areas, Europe, Japan and North America. Transport costs for fabricated goods would be considerably higher than for unwrought copper, because they require greater care in handling and packaging and incur higher insurance charges. Even more important, the success of fabricating enterprises depends on their ability to provide quick delivery and continuity of supply over a wide range of products and Zambia's geographical position would place local fabricators at a severe disadvantage in this regard. Other factors

\[\text{This plant is jointly owned by the Zambian Government and a consortium of private companies which includes NCCM and RCM.}\]

\[\text{Prices for fabricated copper products fluctuate much less severely than those for copper metal.}\]


\[\text{ibid, p. 124-5.}\]
militating against local fabrication are the tariffs which
developed countries impose on fabricated imports, and
the high degree of skilled labour involved in what are
frequently technologically-complex processes.

During the mid-1960s, the Zambian government was anxious
to establish a plant which would supply copper wire and
cable and semi-manufactured products to the domestic and
East African markets. AAC and RST (especially the latter)
were reluctant to become involved in any such venture. To
the Zambians, this was further evidence of the mining
companies' unwillingness to reinvest their profits. AAC
and RST were reluctant to undertake any new commitment for
the time being, but in the case of copper fabrication this
general disinclination was heightened by the existence of the
obstacles discussed above.

The government decided to proceed alone, and
commissioned an independent feasibility study; later a
consortium was formed, headed by a major U.S. copper
producer and fabricator, Phelps Dodge, to examine the project.
Faced with the prospect that potentially rival companies

37 Unwrought copper, on the other hand, is usually exempt
from duty. For a discussion of this point, see A. Young,
*Industrial Diversification in Zambia*, (Praeger, New York,

38 For an account of some of these processes, see R. Prain,
*op.cit.*, p. 115-7.

39 Unlike AAC, RST was very much a specialised mining
concern, which explains its greater reluctance to become
involved in a manufacturing project.


41 See, for example, R. Prain, 'Prospects for Fabricating
Copper in East and Central Africa', *Selected Papers*, 4,
might establish a fabricating plant in Zambia, AAC and RST modified their attitudes and joined in establishing the copper wire and cable plant mentioned above. It was decided not to produce semi-manufactured products, but it is not known whether this was because the government accepted that such activity would be uneconomic or because the consortium was unwilling to undertake it. The government certainly now recognises the strength of the economic constraints in this area. It has not attempted to expand local fabrication since the Take-over, and has sanctioned NCCM's decision to invest in copper fabricating facilities in France.  

Backward linkages: Prior to 1964, the mining industry's domestic expenditures were dominated by payments for electricity, transport services and construction. Few manufactured inputs were produced locally, reflecting the competitive advantage derived by Rhodesian and South African producers from economies of scale associated with the larger size of their domestic markets and, after 1953, the discriminatory policies of the Federal Government in Salisbury. After Independence the Zambian government offered protection and encouragement to new manufacturing

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42 NCCM is engaged in a joint venture with a French company to establish a continuous casting plant which will process Zambian copper.

43 In 1956/7, they accounted for over 80 per cent of domestic expenditures. See R. E. Baldwin, op.cit., Table 2.4, p.38.

44 This competitive advantage usually outweighed transport costs to Zambia.
concerns supplying mining inputs. Items now produced locally include chemicals, basic metal products, machinery, explosives, copper wire and cable, and sulphuric acid.

Some of these industries have not achieved minimum economies of scale,\(^{45}\) with the result that the mining companies frequently pay well in excess of import parity prices for the goods involved. This raises once again the question of precisely what role the copper industry is expected to play in Zambia's economy. In effect, a portion of its sales receipts is being used to subsidise inefficient industries, at the expense of profits and so government revenue. That revenue might make a greater contribution to economic development if it were collected and directed into other sectors of the economy. On the other hand, some of the industries involved may create external economies which makes the support they receive worthwhile. Obviously a carefully selective approach is required, but there is little evidence that such an approach was applied in the years after Independence.\(^{46}\)

With only one exception conflicts of interests have apparently not arisen between the mining companies and the government regarding use of domestic inputs.\(^{47}\) The exception concerned the substitution of domestic coal for

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\(^{45}\) For example, the plant at Kafue which produces ammonium nitrate for use in making explosives has an annual output of about 26,000 tons, whereas annual production of about 50,000 tons is required to achieve minimum economies of scale. B. De Gaay Fortman, 'Zambia's Markets: Problems and Opportunities', in C. Elliott, op.cit., p.217.

\(^{46}\) ibid, p. 217-8.

\(^{47}\) Conflicts have occurred regarding the origin of those inputs which continue to be imported.
imported material in 1965/6. Zambian coal cost substantially more than imports from the Wankie colliery in Rhodesia, because the Zambian deposits were undeveloped and because the coal was of inferior quality and thus less energy-efficient and harsher on smelting and other equipment. AAC and RST were consequently reluctant to use domestic material; AAC had an additional interest in importing coal since it owned the Wankie colliery. However, both responded immediately to Zambian Government directives to reduce imports, and assisted in the development of domestic coal reserves.48

Economic constraints impose major limitations on Zambia's capacity to develop forward and backward linkages. However, considerable progress has been made in those areas where opportunities have been available. In pursuing these opportunities, the Zambian Government found its interests in conflict with those of the mining companies on two occasions, but on both it was able to achieve its objectives, in one case by involving other corporate interests, in the second by exercising its governmental powers in a routine manner.

Net foreign exchange inflow.

Copper exports provide about 95 per cent of Zambia's export revenue, but as Table 12 illustrates they represent a very unstable source of foreign exchange. Prolonged periods of low copper prices cause serious foreign currency shortages, restricting the availability of essential imports

48 R. Sklar, op.cit., p.145.
Table 12

Copper Exports and Total Exports by Value,
1964-1978 (K million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Copper Exports*</th>
<th>Total Exports</th>
<th>Copper as % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>302</td>
<td>327</td>
<td>92</td>
</tr>
<tr>
<td>1965</td>
<td>348</td>
<td>375</td>
<td>93</td>
</tr>
<tr>
<td>1966</td>
<td>466</td>
<td>490</td>
<td>95</td>
</tr>
<tr>
<td>1967</td>
<td>440</td>
<td>467</td>
<td>94</td>
</tr>
<tr>
<td>1968</td>
<td>519</td>
<td>538</td>
<td>96</td>
</tr>
<tr>
<td>1969</td>
<td>729</td>
<td>752</td>
<td>97</td>
</tr>
<tr>
<td>1970</td>
<td>687</td>
<td>710</td>
<td>97</td>
</tr>
<tr>
<td>1971</td>
<td>454</td>
<td>480</td>
<td>95</td>
</tr>
<tr>
<td>1972</td>
<td>499</td>
<td>536</td>
<td>93</td>
</tr>
<tr>
<td>1973</td>
<td>703</td>
<td>738</td>
<td>95</td>
</tr>
<tr>
<td>1974</td>
<td>847</td>
<td>900</td>
<td>94</td>
</tr>
<tr>
<td>1975</td>
<td>479</td>
<td>518</td>
<td>93</td>
</tr>
<tr>
<td>1976</td>
<td>705</td>
<td>749</td>
<td>94</td>
</tr>
<tr>
<td>1977</td>
<td>661</td>
<td>706</td>
<td>94</td>
</tr>
<tr>
<td>1978</td>
<td>608</td>
<td>649</td>
<td>94</td>
</tr>
</tbody>
</table>

Source: Zambia Mining Year Book, various issues.

Note * Includes exports of cobalt which is mined as a by-product of copper.
of goods and services. This problem became so acute during 1977 that in some cases allocations of foreign exchange to importers were reduced to 10 - 25 per cent of normal,\(^\text{49}\) and severe shortages of many imports resulted.

Due to lack of relevant statistical data, it is not possible to calculate the net foreign exchange inflow generated by Zambia's copper industry on a basis similar to that applied in the previous case study.\(^\text{50}\) However, it is possible to estimate the net effect of NCCM's exports on current account for a year of high prices (1973/4) and one of low prices (1975/6).

In 1973/4, NCCM's exports were valued at K555 million.\(^\text{51}\) Non-wage production costs and capital expenditure totalled K241 million,\(^\text{52}\) of which NCCM's Chief Economist estimates that 50 per cent or K120.5 million were expended abroad.\(^\text{53}\) The import content of domestic purchases by the mining companies has been estimated at 28 per cent,\(^\text{54}\) indicating induced imports by NCCM of K33.5 million. Dividend payments to foreign shareholders were K32.8 million,\(^\text{55}\) while expatriate

\(^{49}\) Mining Journal, 4 November 1977.

\(^{50}\) For example figures for items such as interest payments and capital imports are not available for certain periods.

\(^{51}\) These included exports of lead and zinc valued at K28 million.

\(^{52}\) Derived from NCCM, Annual Report, 1974, p.14 and information supplied by MIMSU.

\(^{53}\) Interview, Lusaka, 31 July 1978.


\(^{55}\) Derived from NCCM, Annual Report, 1975, p.17.
remittances are estimated at K8.8 million.\textsuperscript{56} Interest payments abroad were K2 million.\textsuperscript{57} Thus it is estimated that foreign exchange outflows totalled about K198 million, implying a net positive effect of K357 million, equal to 64 per cent of export receipts. Government revenue accounted for K198 million or 56 per cent of this sum;\textsuperscript{58} wages and salaries (20 per cent) and domestic purchases of goods and services (24 per cent) accounted for the remainder.\textsuperscript{59}

In 1975/6 NCCM's exports were K327 million, and total foreign exchange outflows are estimated at K202.7 million,\textsuperscript{60} implying a net foreign exchange inflow equal to only 38 per cent of export receipts. No government revenue was generated in 1975/6.

The difference between the net foreign exchange inflow estimates for the two years (64 \textit{versus} 38 per cent) raises an important point. When copper prices fall, not only do export receipts decline, but the \textit{proportion} of those receipts accruing as net foreign exchange inflow also falls. This is

\begin{itemize}
\item \textsuperscript{56} It has been estimated that expatriate employees remit 30 per cent of their incomes. Derived from S. Goodman, 'The Foreign Exchange Constraint', in C. Elliott, op.cit., p.235, n.4.
\item \textsuperscript{57} Total interest payments were K4 million, while about half of NCCM's loans were raised abroad. Interest rates on foreign and domestic loans are apparently similar.
\item \textsuperscript{58} Taxation was K164 million and the Government's share of dividends K34 million. NCCM, \textit{Annual Report}, 1974, p.14, 17.
\item \textsuperscript{59} Derived from NCCM, \textit{Annual Report}, 1974, and information supplied by MIMSU.
\item \textsuperscript{60} These figures were calculated on the same basis as those for 1973/4, from data contained in NCCM's 1976 \textit{Annual Report} and information supplied by MIMSU.
\end{itemize}
because government revenue (which is itself sensitive to declining prices) accounts for such a high proportion of the net inflow, and it partly explains the severity with which declining copper prices affect Zambia's capacity to import goods and services.

Provision of scarce capital resources.

Foreign equity capital played an indispensable role in the initial development of Zambia's copper mines, as investment on the scale required could not have been generated internally. Once mining operations were well established, equity investment became less important, as the bulk of capital expenditure could be financed from retained profits.\(^{61}\) Foreign capital still plays a major role in Zambia's mining industry, though the type of investment involved has changed. Since 1970 there has been a very large increase in the use of loan capital, a form of finance almost unknown in the industry until 1968/9, when the AAC group mines raised two major loans from Japanese companies. Table 13 gives a breakdown of RCM's and NCCM's capital expenditures for the period 1971-7, according to the manner in which they were financed (loans versus reinvested profits). This shows that 53 per cent of RCM's expenditures and 38 per cent of NCCM's were financed by loan capital. A substantial proportion of this capital has come from outside Zambia: in

\(^{61}\) For instance the RST group mines reinvested K53 million from profits over the period 1959-68, while new equity investment was insignificant. Roan Selection Trust Limited, *Annual Report*, 1968, p. 18-19.
Table 13

Funding of Capital Expenditure in the Copper Industry
1971-1977 (K million)

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital Expenditure</th>
<th>Appropriated from profits</th>
<th>Loan finance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Amount</td>
<td>%</td>
</tr>
<tr>
<td>NCCM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1971*</td>
<td>43</td>
<td>43</td>
<td>100</td>
</tr>
<tr>
<td>1972</td>
<td>42</td>
<td>30</td>
<td>71</td>
</tr>
<tr>
<td>1973</td>
<td>59</td>
<td>39</td>
<td>66</td>
</tr>
<tr>
<td>1974</td>
<td>69</td>
<td>46</td>
<td>67</td>
</tr>
<tr>
<td>1975</td>
<td>59</td>
<td>40</td>
<td>68</td>
</tr>
<tr>
<td>1976</td>
<td>39</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>1977</td>
<td>16</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>327</td>
<td>203</td>
<td>62</td>
</tr>
</tbody>
</table>

| RCM  |                     |        |      |        |      |
|------|---------------------|        |      |        |      |
| 1971 | 28                  | 28     | 100  | -      | -    |
| 1972 | 34                  | 12     | 35   | 22     | 65   |
| 1973 | 28                  | 11     | 39   | 17     | 61   |
| 1974 | 27                  | 20     | 74   | 7      | 26   |
| 1975 | 37                  | 24     | 65   | 13     | 35   |
| 1976 | 34                  | -      | -    | 34     | 100  |
| 1977 | 56                  | 20     | 36   | 36     | 64   |
| Total| 244                 | 115    | 47   | 129    | 53   |


Note: * Includes expenditures made in 1970.
1977, 60 per cent of RCM's outstanding loans and 76 per cent of NCCM's had been raised abroad. These figures underestimate the role of foreign capital, as some 'local' loans are refinanced with foreign banks.

No foreign equity has been invested in mineral development (other than in exploration) since 1969. The minority shareholders in RCM and NCCM have refused to participate in new share issues, while no other concerns have undertaken major projects. This picture may change if Zambia's uranium prospects are exploited, and it will almost certainly have to change if major base metal deposits are to be developed. For example, current estimates indicate that it would cost about US$1 billion to develop the massive low-grade copper deposit at Lumwana. Loan finance for such a project would be difficult to find unless substantial equity investment was forthcoming. It is doubtful whether Zambia could supply that investment from internal sources without depriving other sectors of much-needed capital expenditure; the mining industry already absorbs about 20 per cent of total public and private capital investment.

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63 Interview with NCCM's Chief Economist, Lusaka, 31 July 1978.
64 NCCM, Circular to Members and Notice of Extraordinary General Meeting, 19 September 1978, p.3.
65 Interview with MINDECO's Consulting Engineer, Lusaka, 17 July 1978.
66 This figure applies to the period 1971-6. Derived from Table 13 and Republic of Zambia, Economic Report, 1976, Table 6, p.27.
Thus foreign equity investment may again come to play an important part in the development of Zambia's minerals.

The method in which capital investment was being financed over the period 1971-3 was one reason given by the Zambian government for its redemption of the ZIMCO bonds. However, increased use of loan capital was not in itself the problem. When negotiating the Take-over terms, the government had placed considerable value on the fact that the mining companies carried little or no debt burden and could therefore raise substantial loans to fund development programmes. Raising of loans required the approval of 'A' directors, and the government could have prevented use of loan capital if it had so desired. The real problem was that a higher share of profits was not being reinvested in addition to the loans. As mentioned above, the minority shareholders succeeded in keeping reinvestment rates at a low level after 1970, and their interests were clearly in conflict with the government's in this instance.

Provision of technical and other skills.

Until the early 1950s, the mining companies obtained their skilled personnel almost entirely by recruiting qualified expatriates and training (exclusively white) apprentices; Africans were taught only the most basic industrial skills.

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67 A. Martin, op.cit., p.173.
68 See pp. 197-8.
This reluctance to train African employees initially reflected their low educational qualifications and high turnover rates. The first meant that training would be costly, the second that the mining companies would receive little in return for the expense. By the mid-1940s both factors were of less relevance - turnover had declined substantially, and as a result many Africans had gained a measure of practical education through work experience. The companies were now anxious to train Africans to replace expensive expatriate workers, but the opposition of the European union effectively precluded on-the-job training, while Northern Rhodesia's schools failed to produce suitable Zambian candidates for formal advanced education.

By the early 1960s both of these obstacles had been removed, though the legacy of colonial educational policies would take many years to overcome. The mining companies initiated a broad training programme, eventually operating at three levels.\textsuperscript{69} The first was designed to equip Zambians for semi-skilled and lower supervisory positions predominantly by on-the-job training, the second to produce Zambian artisans and technicians by a mixture of formal trade school education and on-the-job training, the third to help develop a supply of technical and professional graduates, principally through a programme of scholarships and sponsorships.

\textsuperscript{69} These training programmes were not established simultaneously, and in fact training of semi-skilled workers was essentially complete before third-level educational programmes were established.
Progress on the first level was rapid, and by 1968 the programme was essentially complete. Two major problems have arisen regarding the second, both involving the role of expatriates in on-the-job training. First, expatriate skilled labour has been in short supply for much of the period since 1964; the available staff have been fully occupied in maintaining copper production, and have had little time to assist apprentices assigned to them. Secondly, expatriate workers are aware that they are 'training themselves out of a job', and some are reluctant to pass on their skills, particularly if their own job mobility is limited. The outcome is that newly-qualified Zambian staff assigned to the operating divisions are frequently unable to deal with practical work situations, and have either to be returned for further training or left to acquire skills on a trial-and-error basis. The first must cause frustration and resentment, the second inefficiency and, where underground work is involved, danger.

Training of technical and professional graduates has progressed very slowly, for two main reasons. First, it was some time before appropriate educational institutions

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70 Training of new recruits continued, of course, and existing workers received additional training to familiarise them with new techniques or to qualify them for promotion.

71 This applies particularly to long-time residents of Zambia, who do not wish to live elsewhere, and to those nearing the end of their working lives.

72 Interview with Mill Superintendent, Mufulira Mine, Mufulira, 26 July 1978.
were established. Second, there has been a shortage of suitable candidates for appropriate degree courses. The mining industry's main requirements are in the engineering and related fields, and third level institutions consequently need a high intake of school leavers with backgrounds in mathematics and science. Unfortunately, it is precisely in this area that school output is weakest; in 1975, for example, only 30 'O' level candidates examined in mathematics, physics and chemistry received the grades required for admission to university level in each subject.

As a result of these factors, the number of Zambian graduates employed in the mining industry has remained very low: in 1978 only 92 were working in mining/geology.

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73 Until 1970, when a Department of Technical Education and Vocational Training was set up, technical and vocational training was carried on by a multiplicity of poorly co-ordinated agencies, with the result that overlaps occurred in some areas and deficiencies in others. A university was not established until 1967, and it was 1973 before the University of Zambia (UNZA) created a School of Mines which, in combination with its School of Engineering, could offer a complete range of courses corresponding to the mining industry's requirements.

74 MIMSU, From African Advancement to Zambianisation in the Mining Industry: Policies, Programmes, and Progress, Mimeo, 1 June 1978, p.6. The paucity of adequately-qualified candidates is illustrated by the fact that many of those admitted to UNZA on mining industry scholarships fail to reach the requisite standard in the first year examinations which determine their eligibility for the Schools of Mines or Engineering. They must pursue teaching degrees in Science or Arts, and consequently the mining industry's funds are used to produce graduates for which it has little or no use; in June 1978, for example, mining industry awards supported 138 students attending the Schools of Mines and Engineering and 72 pursuing education degrees. MIMSU, Monthly Statistical Report, June 1978, Table A9.1.
metallurgy/chemistry and engineering. This picture will improve as additional students graduate from UNZA, but the mining industry estimates that there will be a shortfall of 954 in its requirement for technical graduates in 1982, assuming no wastage in training or in employment. If graduate output remains at the 1980 level, it will be nearly 20 years before this shortfall is met, again assuming no wastage.

The basic difficulty in increasing graduate output arises from the perceptions of Zambian students as to the options and opportunities open to them. Since Independence, the government has been Zambianising the large number of civil service positions formerly held by expatriates. Students who graduate from three or four year courses in commerce or public administration, for example, are therefore assured of immediate employment. A student pursuing a technical career on the mines, on the other hand, must complete a five year degree course, and then obtain up to three years' practical experience before beginning work in his professional capacity. Even at this stage, his income will not be substantially greater than that of a contemporary

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75 MIMSU, From African Advancement to Zambianisation..., p.11.
76 ibid, p.14.
77 In 1980, about 55 students on mining industry awards will receive degrees from UNZA in Natural Sciences, Engineering and Mines. MIMSU, Monthly Statistical Report, June 1978, Table A9.1.
78 A graduate mining engineer, for example, will spend about three years gaining practical experience before being appointed a mine captain.
who joined the civil service. While this situation exists, students will have little incentive to pursue science subjects at school or at university, and until it changes the mining industry will not receive the supply of graduates it requires.  

Training in the mining industry is now the responsibility of the Zambian government, but the foreign investors (especially AAC) still play a crucial role in the provision of skills at the highest technical and professional level. Staff with the ability and experience to fill positions at this level are in short supply (both in Central and Southern Africa and world-wide), and many would not choose to work in Zambia without the security of employment and opportunities for advancement which they derive from being attached to a major international mining concern. Thus a number of AAC's senior staff in Zambia refused to transfer to NCCM, and are now seconded to NCCM by AAC.  

Many of RCM's staff do not have this option, because its major foreign shareholder, AMAX, is not as closely involved in the Zambian mining industry as AAC. RCM has consequently found it more difficult than NCCM to attract and retain high-calibre recruits.

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79 Student attitudes may not be the only factor involved — the primary school system may fail to prepare students for science subjects, secondary schools may not provide adequate facilities for teaching those subjects. However, until student attitudes change any such deficiencies are unlikely to be remedied and, even if they were, a solution to the problem would still require a change in attitudes.

80 These included NCCM's current Chief Economist, its Technical Director, and a number of senior consulting engineers. Interview with Director, Anglo American Central Africa Limited, Lusaka, 1 August 1978.

81 Interview with MINDECO's Consulting Engineer, Lusaka, 17 July 1978.
The Zambian government has cited the slow pace of Zambianisation as one reason for seeking increased control over the copper industry.\(^{82}\) However, it is not simply a question of the government being wholly committed to rapid Zambianisation and the companies or later the minority shareholders being against it.

In general terms, both parties have feared that rapid Zambianisation would reduce efficiency and so profitability. Emphasis has been placed on 'proper and efficient' Zambianisation, not just by company officials, but also by the Department of Mines,\(^{83}\) and this may have led to over-caution in some cases. On the other hand, both parties have had a strong financial incentive to replace expatriate staff who inflate wage bills and so reduce profits.

In more specific terms, the principal constraint on Zambianisation at the technical and professional level has arisen from the nature of the educational system, and what has been most lacking in this area is a government initiative to expand the supply of suitably-qualified candidates. The government's desire to obtain high school and university graduates to fill administrative positions has probably contributed to the development of an educational system with a low output of science-oriented students, and to the absence of serious attempts to rectify the situation. The mining companies have not actively retarded progress in this area.

\(^{82}\) See above, p. 216.

\(^{83}\) This was the phrase used by the Department's Assistant Permanent Secretary to describe its approach to Zambianisation. Interview, Lusaka, 18 July 1978.
They have not denied financial assistance to available candidates for third level education, and have apparently not discriminated against Zambian graduate employees. However, they could have adopted a more positive attitude, for example by attempting to isolate routine components in the work of expatriate graduate employees (for instance chemists) which could be performed by Zambian technicians, an approach which is now being adopted with considerable success.

Turning to the skilled manual level, responsibility for the scarcity of expatriate staff to provide on-the-job training is shared by the companies and the government. The companies have not (until recently) employed expatriates whose sole or major responsibility would be training, probably because of the expense involved. This option could usefully have been examined at a much earlier date. On the other hand, the government could have done more to encourage expatriate recruitment, for example by ensuring rapid exchange control clearance for remittances.

84 A number of commentators have taken a contrary view on this point, claiming that the white management has slowed down the promotion of Zambians. Many graduates are frustrated by the requirement for extended practical training, and some certainly believe that they are discriminated against, but the records of the Manpower Planning, Training, and Zambianisation Unit show that, on average, Zambian graduates are promoted more rapidly than Europeans recruited at the same level. Interview with the Head of the Manpower Planning, Training, and Zambianisation Unit, Kitwe, 28 July 1978.

85 ibid.

86 Zambianisation below the artisan level was completed rapidly and need not concern us here.

87 A major initiative was taken in this regard in 1973/4 when the number of expatriates engaged full time in training was doubled.
The attitude of expatriate workers to Zambian apprentices and trainees raises more complex questions. Management can do little when faced with employees who refuse to pass on their skills. Any attempt to keep a rigid check on trainees and to penalise employees where lack of progress was evident would almost certainly be counter-productive; it would be resented by expatriates, and would probably lead to further resignations and compound the problem of finding replacements. The difficulty in this area is a deep-seated one. Because of their key role in the industry, management is very loath to take action against expatriates who are retarding Zambianisation; the risk in terms of loss of efficiency is simply too high. No new initiatives have been taken in this area since 1973, indicating that this factor has acted as a constraint on the Zambian government, just as it did on the foreign investors.

The requirement for rapid Zambianisation has conflicted with other interests being pursued by the government or the companies or both, and this explains why progress has frequently been slow. Corporate and national interests may have come into conflict on this issue, but only in the sense that government would have liked the companies to be more enterprising in those areas where its other interests were not threatened.

Provision of infrastructure.

As mentioned earlier, the spin-off effects of mine infrastructure have been limited by the Copperbelt's geographical concentration. The mines are served by only
one major railway line and one bitumenised road, both of which follow the same route.\textsuperscript{88} This is in contrast to the experience in Rhodesia or South Africa, for example, where mineral deposits were more widely scattered, requiring extensive branch railway systems serving large geographical areas. The situation may change if Zambia's widely-dispersed uranium deposits or other orebodies away from the line-of-rail (such as Lumwana) are developed.

Absorption of domestic resources.

Foreign mining companies have not mobilised significant amounts of domestic capital in Zambia,\textsuperscript{89} but their activities have absorbed substantial amounts of agricultural labour over an extended period of time. Anne Seidman has estimated that some villages have lost up to 60 per cent of their male populations in the 20-40 age group, leading to over-use of existing cultivated land and a serious decline in productivity.\textsuperscript{90}

Mining has also absorbed some agricultural land, but because of the Copperbelt's geographical concentration its impact in this regard has not been widely felt.

\textsuperscript{88} The railway line was in fact constructed prior to 1909 to serve the Broken Hill lead/zinc mine and the Katanga copper mines, and the discovery of the Copperbelt did not in itself stimulate major new developments; the mines were simply connected to the existing rail system by spur lines. However the Copperbelt's discovery did ensure the system's long-term viability.

\textsuperscript{89} See p.237 above.

\textsuperscript{90} A. Seidman, \textit{Alternative Development Strategies for Zambia}, (Land Tenure Centre, Wisconsin, June 1973), p.5-6. Cultivation of new land has traditionally been performed mainly by males in the 20-40 age group.
Impact on consumption patterns.

The mining industry has had a major impact on consumption patterns in Zambia. It has drawn into close contact a large expatriate community and a substantial proportion of Zambia's population, with the result that Zambians have attempted to emulate expatriate patterns of consumption.

This has had four major effects. First, it has fuelled Zambian demands for incomes on a par with those of expatriates, a point dealt with below in discussing income distribution. Second, it has created a substantial demand for imported goods and services. This may not create problems in times of high copper prices, but it certainly does so when low prices reduce Zambia's capacity to import essential goods and services. Third, Zambians frequently (indeed usually) fail to achieve the income levels required to support expatriate standards of consumption, and this sometimes leads to corruption or malpractice in the civil service and government. The Reports of Zambia's Auditor-General list many cases of misappropriation of funds by public servants, while at least two serious cases of financial malpractice at the political level have been revealed. Finally, there has been a spill-over effect into

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91 See pp. 251-60.
93 In 1971 four government ministers were dismissed after a commission of inquiry found them guilty of financial improbity. In 1973, a number of senior politicians apparently used their access to confidential information to make hefty profits on trading in ZIMCO bonds; in 1978 this matter was being investigated by the Zambian police.
the countryside; rural Zambians have become aware of the consumption levels enjoyed by many urban dwellers, and this has contributed to rural-urban migration with its attendant social and economic problems.\footnote{94}

It is difficult to envisage how Zambia could have obtained the benefits of mineral development without incurring some costs as a result of changed consumption patterns, but these costs would probably have been considerably less had Zambianisation not been delayed for so long.

\textbf{Wage levels and income distribution.}

The mining industry has had a major impact on income distribution, for two reasons. First, because the industry's factor payments represent such a large proportion of the wealth generated in Zambia, changes in the relative use of various factors have important consequences for income distribution. Second, the mining industry's payments to labour influence labour payments in other sectors of the economy through a 'demonstration effect', and this in turn has a significant impact on national income distribution. In both cases, the mining industry's wage policies are a crucial factor.

During the period 1964-6, Zambian mineworkers received a number of substantial wage increases, through collective bargaining with the mining companies (12 per cent in 1964, \footnote{94} The most serious of these involve unemployment, urban crime, and the poverty and disease of the shanty-towns which have sprung up in Lusaka and other centres.
ll per cent in January 1966), and through a government
award (22 per cent in August 1966). Various factors
contributed to their ability to win these increases. Their
trade union was militant, cohesive, and highly organised,
and consequently in a strong position to disrupt the
enormously important copper industry. The government would
have found it difficult to resist the mineworkers' demands,
even if it had wished to, but it could hardly deny their
right to close the huge income differentials separating
them from expatriate miners.\(^{95}\) Copper prices rose
substantially over the period 1964-6, and since African wages
constituted a relatively small proportion of total production
costs,\(^{96}\) the companies could pay the wage increases and still
expand their profits.

It is difficult to assess precisely what effect these
wage increases had on income distribution within the mining
sector, as problems arise in isolating their impact on
relative factor use. Mechanisation certainly continued during
and after the period of wage increases; this is evident
from developments at individual mines,\(^{97}\) and from the fact
that the increase in production over the period 1964-9 was
only just matched by the increase in employment, while much

\(^{95}\) The governing party, UNIP, supported the mineworkers' case before the 1966 Brown Commission.

\(^{96}\) They accounted for about 18 per cent of total production costs in the early 1960s. R. E. Baldwin, op.cit., p.107.

\(^{97}\) See A. Nziramasanga, op.cit., p.67, 70, for an account of developments at the Chingola and Mulfulira mines.
of the latter resulted from fragmentation of existing positions. However, it is not certain that mechanisation was entirely due to wage increases; tax treatment of expenditure on equipment was made more favourable in 1964, and this may have had some effect. Neither is it known whether the entire increase in employment was due to job fragmentation. However, even if it is assumed that, solely because of wage increases, the relevant increase in production failed to generate any additional employment (or, in other words, that job fragmentation was entirely responsible for the increase in employment which did occur and that mechanisation was entirely due to wage increases), total payments to labour at 1969 average wages would still be very much greater than if the average wages and the output/labour ratio which applied in 1964 had remained unchanged. In fact employment would have had to decline by 43 per cent from the 1964 level for the two to be the same.

Thus wage increases effected a redistribution of income from mining companies to Zambian labour. In one sense, it was

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98 See Tables 6 and 8.


100 In addition, certain of the innovations which led to mechanisation may have been forced on the Zambian companies by the need to remain competitive with other copper producers.

101 If the additional employment which actually materialised is excluded, wage payments in 1969 would have been K49.5 million; if the 1964 labour output ratio and average wages had remained unchanged, the equivalent figure would have been K28.2 million. (Derived from Tables 8 and 10.)

102 Derived from previous footnote.
clearly preferable from Zambia's point of view that income should flow to nationals rather than to foreign companies who would probably remit a large part of it.\textsuperscript{103} However, it must be remembered that some 60-70 per cent of gross profits were absorbed by taxation, and thus redistribution of profits in favour of labour would also involve redistribution of government revenue in favour of labour. Any such development would have important implications for domestic income distribution, as we shall see below.\textsuperscript{104}

Wage increases in the mining industry had a major impact in other sectors of the economy. The industry acted as a 'wage leader',\textsuperscript{105} with other workers attempting to emulate the miners, and pressure was exerted on the government (as an employer and as an industrial arbitrator) and on private companies to grant substantial pay increases. This trend was particularly evident after the government-appointed Brown Commission awarded miners a 22 per cent pay rise in August 1966. Within a year, public service workers had obtained increases of 20 to 80 per cent, construction workers 33 per cent, agricultural workers 30 per cent, and workers in service industries 25 to 55 per cent.\textsuperscript{106} The

\textsuperscript{103} Given that the companies were then only maintaining the value of their investments, it was entirely possible that all of the additional income would have been remitted.

\textsuperscript{104} This point was given greater force when the Government further increased its entitlement to profits by becoming a majority shareholder in the mines.

\textsuperscript{105} Evidence of the industry's role as a 'wage leader' is presented by J. B. Knight, 'Wages and Zambia's Economic Development', in C. Elliott, op.cit., p.99-102.

\textsuperscript{106} ibid., Table 4.3, p.102.
search for higher wages cannot be solely attributed to the operation of a 'demonstration effect'. Independence raised the expectations of all Zambian workers, and the high level of expenditure permitted by buoyant copper prices increased demand for skilled and semi-skilled labour. Nevertheless, events in the mining industry did provide a catalyst.\(^{107}\)

Even more importantly, wages in the industry were already considerably higher than in other sectors,\(^{108}\) and large percentage increases in miners' wages meant that the level of expectations of other workers (and consequently their wage demands) would be high.

General wage increases had a number of important economic effects, with one of the most significant resulting from their impact on government finances. In the mid 1960s, the government employed about 65,000 people or 30 per cent of the wage-earning workforce, and wage rises consequently had a major impact on current expenditure. Pay increases in the mining industry also had a direct effect on government finances since they reduced profits and so taxation.\(^{109}\) The impact of these developments was not very evident during the mid-1960s, as high copper prices ensured that revenue exceeded all capital and current expenditure. However, high

\(^{107}\) It is significant that the largest wage increases occurred in the year after the Brown Commission award rather than in the two years after Independence. R. Jolly, 'The Skilled Manpower Constraint', in C. Elliott, op.cit., Table 2.4, p.36.

\(^{108}\) See below, p. 258.

\(^{109}\) Richard Jolly has calculated that mineral revenue over the period 1965-9 would have been some K50 million greater if African wage increases had averaged 5 per cent per annum and expatriate rates had remained constant. R. Jolly. 'The Seers Report in Retrospect', African Social Research, 11, (June 1971), p.14.
wage levels had been established in the public service and the mining industry, and these did not fall when copper prices declined, with the result that sufficient revenue was not available to maintain capital expenditure. The point has already been made that one of Zambia's principal goals, economic diversification, will not be achieved unless a substantial level of capital investment can be maintained.

Wage increases also had a significant though unquantifiable effect on employment. Labour costs represent a substantial proportion of total production costs in the manufacturing and agricultural sectors, and the large pay increases of 1964-9 had a major impact on their employment-generating potential, for two reasons. First, they encouraged use of capital-intensive techniques. Second, they reduced Zambia's competitiveness as a potential exporter (especially in the East African region where wage rates were already lower than in Zambia), and increased the competitiveness of imports. Thus opportunities for industrial and agricultural development based on export markets and import substitution were reduced.

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110 Capital expenditure had to be reduced after periods of depressed prices in 1971/2 and 1975/6.
111 In the mid 1960s, wage payments accounted for from 20 to 40 per cent of total production costs in these sectors. J. B. Knight, 'Wages and Zambia's Economic Development', in C. Elliott, op.cit., Table 4.4, p.104.
112 ibid., Table 4.6, p.108.
113 Devaluation of the Kwacha might have counteracted the effects to some extent by making exports cheaper and imports dearer. However, mineworkers would probably be able to win compensatory wage increases, thus beginning the whole cycle once again; in addition, the effects of devaluation on import prices would be indiscriminate, and prices of goods and services essential to the development effort would also increase.
Partly for these reasons, growth in employment over the period 1964-70 was not as rapid as had been anticipated - 83,000 as against the minimum expected figure of 100,000. In addition, about two thirds of the increase came in the construction sector and the public service, and the growth in both was to a large extent a 'one-off' phenomenon - the construction industry in response to the high demand created by unusually buoyant copper prices and the reorientation of transport routes, the public service as a result of the establishment of a full government apparatus after Independence. In the late 1960s and early 1970s, the growth in employment was not maintained. At the same time, the urban population grew at about 8 per cent per annum, with the result that the number of urban unemployed increased by an estimated 8,000 to 10,000 a year.

It was in fact unlikely that expansion in industrial employment could have matched the growth in urban population, regardless of wage rates. Since much of that growth resulted from rural-urban migration, any attempt at dealing with unemployment would have to focus on rural development; thus the impact of wage increases on the prospects for such development was especially significant.

115 Employment in the construction industry grew by 38,000 during these years, that in the public service by 20,000. A. Martin, op.cit., p.222.
116 R. Sklar, op.cit., p.120.
117 A. Young, op.cit., p.230.
Pay increases for wage-earners had a major impact on distribution of income between rural and urban Zambians. The incomes of peasant farmers did not increase at nearly as high a rate as did urban wages. Over the years 1964-8, average peasant earnings increased by 53 per cent in money terms; average earnings of wage-earners outside the mines increased by 125 per cent, those of mineworkers by 105 per cent. 118 In addition, urban wage increases affected the terms of trade between rural and urban areas. Goods and services provided by the urban to the rural sector became more expensive while the price of agricultural goods rose much more slowly; in real terms, rural incomes increased by only 4 per cent over the period 1964-8, while those of wage-earners outside the mines increased by 52 per cent and those of mineworkers by 35 per cent. 119 Thus the additional wealth accruing to Zambians over this period 120 was very unevenly distributed, further skewing income distribution in favour of the urban areas. In 1964, wage earners outside the mines earned, on average, three times as much as peasant farmers, mineworkers seven times as much (at 1968 prices); in 1968, the equivalent figures were four and a half times and nine times. 121

118 Derived from A. Martin, op.cit., Appendix, Fig. 7.
119 ibid.
120 GDP increased at an average rate of 13 per cent between 1964 and 1970.
121 Derived from A. Martin, op.cit., Appendix, Fig. 7.
When the gap between rural and urban incomes expands, rural-urban migration increases. This in turn weakens the prospects for the rural development which might stem further migration as it creates labour shortages, frequently deprives villages of their most enterprising inhabitants, and can make it uneconomic to maintain existing services or provide additional ones. At the same time, wage increases reduce the government's capacity to increase rural incomes, as less money is available to finance services and the capital investment which might create income-generating assets.

It is difficult to see how the Zambian government could have avoided these problems. It inherited a mining industry in which huge wage differentials separated blacks and whites, and there was very little it could do to prevent black workers from attempting to change this situation. Having conceded the mineworkers' demands, it would have found it very difficult to resist those of other workers, or to avoid the consequences of not doing so. However, its inability to avoid these difficulties had important consequences for its mineral policies, consequences which were not fully taken into account.

First, the government's desire for rural development called for a redistribution of income in favour of rural Zambians. From this perspective, it would have been preferable to allow the mining companies to pursue profit-maximising factor combinations, thus maximising tax revenues and the government's ability to divert resources into the rural sector. However, there are some indications that this has not been done since the 1969 Take-over (see above, p. 224);
certainly government statements on employment policies show little awareness of their implications for income distribution.\textsuperscript{122} Similarly, the policy of encouraging inefficient production of mining inputs effectively redistributed income from the government to urban workers.

Second, it was apparent that the continued presence of a large number of expatriate miners would continue to exercise an upward effect on Zambian wage levels.\textsuperscript{123} It was essential that Zambianisation proceed as rapidly as possible; yet, as mentioned above, the government displayed little urgency in this area.

Once again, the implications of policy alternatives had not been fully spelt out.

Ownership and control of mineral resources.

Before proceeding further, two other areas of potential conflict should be mentioned. The first involved the issue of the mining companies' purchasing policies. From what has already been said on this subject, it is apparent that a real conflict of interest did exist in this area: the companies were anxious to maintain their links with Southern Africa, the government wished to break them.

The second, which concerns mining practices, is more complex because the issues involved are technical in nature and because disagreements frequently occur even among

\textsuperscript{122} Republic of Zambia, \textit{First National Development Plan, 1966-70, Ch. vi; Second National Development Plan, p.85.}

\textsuperscript{123} Average Zambian wages increased by 75 per cent between 1968 and 1977 (see Table 10).
disinterested experts as to what constitutes 'best mining practice'. The government believed that the companies might adopt practices inimical to Zambia's interests, for example by high-grading or by allowing excessive dilution of ore. High-grading can be a perfectly sound mining practice in certain circumstances; what the government feared was that the companies would continually extract the richest ores to maximise profits in the short term, leaving behind ore which could have been extracted profitably along with the richer material but which would be uneconomic to mine on its own. If this occurred, Zambia would be deprived of employment, export earnings, and revenue. A certain degree of dilution is inevitable in any mining operation; however, excessive dilution might occur where companies were unwilling to invest in facilities for disposal of waste prior to processing, leading to higher operating costs and lower profits.

As regards both these practices, the basic issue was the discount rate applied by the companies to future earnings; application of a high rate might make it worth their while to sacrifice lower-grade ore (and thus reduce total profits) in order to maximise short-term profits, and not worth their while to invest in waste disposal facilities so as to reduce future operating costs and increase future profits.

See, for example, the contrary views expressed on the subject of high-grading in E. G. Thomas, 'Justification of the concept of high-grading in metalliferous orebodies', Mining Magazine, May 1976, p.393-7; and G. P. Walduck, 'Justification of the concept of high-grading in metalliferous orebodies - a dissenting view', Mining Magazine, July 1976, p.65-7.

E. G. Thomas, op. cit., p.397.

Revenue would of course be increased in the short term, but total revenue would be lower.
As mentioned already, it is extremely difficult to obtain conclusive evidence on questions of this type. However, at least one independent authority believes that the companies did engage in systematic high-grading, and that this resulted in loss of workable ore, while it is certainly true that their time horizons were short in the period after Independence. Thus the government's belief was probably justified that conflicts of interest might exist in this area.

In sum, five areas have been identified where conflicts of interest did exist or may have existed: pricing of imported goods, sourcing of imports, mining practices, Zambianisation, and investment policies. Was majority state ownership of the operating companies the best way to ensure that national interests would be protected in these areas?

One point is immediately clear — majority ownership would not in itself ensure such an outcome. The government's directors and their advisory staff would have to be sufficiently qualified and well-informed to defend Zambia's interests in a situation where ownership and control would be shared with corporations who were extremely knowledgeable about the Zambian and international mining industries.

Information was of crucial importance as regards pricing and sourcing of imports. Import pricing could not be monitored unless information was available regarding prices...

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127 Interview with L. Gustafson, Professor of Economic Geology, Research School of Earth Sciences, Australian National University, Canberra, 4 April 1978. It should be noted that the taxation system applied to mining companies encouraged high-trading by making exploitation of lower-grade ore unprofitable.
offered by suppliers other than those affiliated to the parent companies. If imports from Southern Africa were to be reduced, it would be necessary to know which items could be obtained elsewhere and where to obtain them.128 Armed with the relevant information, the government's directors could press its case; without it, they could do little.

The cost of obtaining information would hardly be excessive. The range of items purchased in large enough quantities to provide opportunities for significant tax avoidance was limited, and most were freely traded (for instance mining, transport and electrical equipment). The search for information on prices would also reveal whether alternative sources of supply were available.

Monitoring of mining practices would require a higher degree of technical expertise and thus the recruitment of specialised staff. However, once again the cost need not be prohibitive; substantial salaries would have to be offered to attract personnel with the necessary depth of practical experience, but the numbers required would be small. There would be no need to continually monitor working methods in every mine; selective checks carried out on a random basis would have an effect throughout the industry.129

The issue of investment policies is more complex. Its most obvious aspect was the unwillingness of the foreign

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128 For example, much of the equipment on the Copperbelt was South African, and it might therefore be difficult to obtain spare parts elsewhere.

129 If the information gathered in the process was applied in seeking more cost-efficient mining methods, the exercise might more than pay for itself.
investors to reinvest profits. In the absence of taxation measures which might have persuaded them to change their minds, the only alternative was for the government to obtain full control over dividend policy. To do this, it apparently had to obtain majority ownership; it was obvious that exchange control over dividend remittances, for example, had no effect. But there was a second dimension to this issue. Any investment decision depends on how the technical and economic feasibility of the prospective project is assessed. For example, if recovery of metal from waste dumps was being considered, it would be necessary to determine whether or to what extent it was physically possible to do this. The conclusions would in turn influence assessments of economic viability, which would also be based on projections of future metal prices and production costs. If these functions were carried out by the minority shareholders, government directors would be powerless to question their conclusions unless they could call on independent experts who could examine the methods and assumptions used in determining technical and economic viability. Government control over dividend policies would have little impact if the minority shareholders continued to decide what was and was not worth spending money on.

To understand the importance of this point, it is necessary to outline briefly the structure of decision-making in the mining industry. Since the 1969 Take-over, the position in theory is that the government sets broad policy

\[\text{See below, p.182.}\]
guidelines for the industry; these are conveyed to the company boards, which formulate specific policies accordingly. The Managing Directors exercise executive power and translate these policies into action.\textsuperscript{131} This may be the way in which decision-making actually occurs on issues such as wages policy, but in the crucial area of investment policies the situation is in fact more complex.

Initiatives which lead to investment decisions frequently come from operating divisions, where staff see a need or an opportunity for investment.\textsuperscript{132} The initial assessment work is carried out by technical staff at this level, in co-operation with accounting and finance staff from the Centralised Services Division. If it is felt that the project warrants further expenditure, it is submitted to the Technical Officer.\textsuperscript{133} This individual plays a crucial role in decision-making. He views competing requests for funds and decides which, if any, will be forwarded to the Managing Director and the Board for their consideration.\textsuperscript{134} If the Board initiates proposals itself, they must be submitted to the Technical Director and his staff, who assess their technical and economic viability.

\textsuperscript{131} Interview with NCCM's Managing Director, Lusaka, 31 July 1978.

\textsuperscript{132} The Chingola Leach Plant project, which constitutes the largest single capital investment undertaken by the industry since 1970, originated in this way.

\textsuperscript{133} Interview with officials at NCCM's Centralised Services Division, Kitwe, 25 July 1978.

\textsuperscript{134} Interview with NCCM's Managing Director, Lusaka, 31 July 1978.
Thus if the government directors were not simply to rubber-stamp investment proposals deemed acceptable by the minority shareholders, they would require access to an independent source of technical expertise. The government would not have to duplicate every feasibility study, but only to ensure that its directors could request a second opinion if their investment proposals were declared unviable, and that projects suggested by the operating divisions and declared unviable by the technical staff could be re-examined.

As far as is known, an information system of the type described above was not established after 1970, which may have contributed to the failure of the Take-over to give the government effective control, though other factors were of course more important. The government did show awareness of the need for technical expertise, and MINDECO was given the task of monitoring the management and operating companies. It recruited a small but highly-qualified staff which included at least one specialist in each of the main areas of mining activity, for example geology, metallurgy and engineering. MINDECO was soon operating as an effective monitoring agency,\textsuperscript{135} and undertaking detailed technical studies regarding various aspects of mineral development.\textsuperscript{136}

The legal and other restrictions contained in the 1969 Take-over arrangements prevented the government from gaining

\textsuperscript{135} As one of AAC's directors commented, 'nothing was done in the mining industry without MINDECO knowing about it'.

\textsuperscript{136} Interview with MINDECO's Consulting Engineer, Lusaka, 17 July 1978.
effective control over the copper industry, despite the expertise it had developed, and it reacted by terminating the management contracts. The government subsequently took the view that since the operating companies were self-managing there was no need to monitor their activities.\textsuperscript{137} MINDECO's specialist staff was disbanded, and its monitoring role ended.

With the termination of the management contracts, RCM's and NCCM's Managing Directors became government appointees and their Technical Directors and other senior technical staff were seconded from AAC and AMAX rather than working directly for those companies. The earlier outline of decision-making in the field of investment policies indicates that these changes probably had little significant impact. As mentioned above, the Managing Directors can only make investment decisions on the basis of the Technical Directors' recommendations. The latter and their senior staff are usually long-time employees of AAC or AMAX/RST, and many hope to achieve further advancement within these companies.\textsuperscript{138} Without questioning the integrity of the individuals involved, it is very likely that this background influences their perceptions and the criteria they apply in making decisions. Thus an independent source of expertise was still required if government directors were to ensure that criteria

\textsuperscript{137} Interview with NCCM's Managing Director, Lusaka, 31 July 1978.

\textsuperscript{138} This applies especially to NCCM's senior staff, but RCM's Technical Director, for example, is also on secondment.
other than those employed by the minority shareholders could be applied in decision-making.

A number of cases have arisen since 1974 which illustrate this point. One resulted from the government's desire to establish a fertiliser plant at Kafue to reduce Zambia's dependence on imports. Additional domestic supplies of sulphuric acid were required if this project were to proceed. Collection of sulphur emissions from the Mufulira smelter would provide these supplies, and the government asked RCM's technical staff to examine the feasibility of installing a collection plant. Their study concluded that technical and economic factors would render such a project infeasible. This may or may not have been the case - the important point is that the Zambian government lacked the capacity to obtain a second opinion on the matter. It may have been that the assumptions employed in the study were too conservative, or that its terms of reference were inappropriate from the government's viewpoint. For example, the investment might not be warranted in terms of its direct financial yield, but might be desirable from a national perspective if the direct and indirect effects on employment and the balance of payments and the fact that it would considerably reduce pollution from the smelter were taken into account. The ability to ensure that broader perspectives of this type are considered surely lies at the heart of any

139 Interview with MINDECO's Consulting Engineer, Lusaka, 17 July 1978.
140 Interview with Mufulira Smelter Foreman, Mufulire, 26 July 1978.
attempt to establish national control over mineral development. Other relevant cases have involved the possibility of substituting domestic coal for imported heavy fuel oil as a source of power in certain processes, and that of assisting small miners by giving them access to smelting and other facilities. These are matters which have been raised by the government\textsuperscript{141} - it is not known whether projects proposed by the operating divisions have similarly been declared unviable.

What explains the government's failure to retain the expertise developed in 1970-4? It may have failed to realise the extent to which the minority shareholders would retain their influence, though MINDECO certainly understood the reality of the situation.\textsuperscript{142} However, by 1973 MINDECO's advice was no longer being heeded; the organisation had become involved in a political power struggle, and this was in fact a key element in what occurred.

MINDECO was headed by an extremely competent and politically-astute Zambian, D. C. Mulaisho. Mulaisho was deeply distrusted by Zambia's 'old guard' nationalists, who saw him (correctly) as a potential leader of an emerging political grouping of well-educated young Zambians. This group favoured a more pragmatic, economically-oriented approach to major policy issues (especially in regard to Zambia's relations with Rhodesia and South Africa), and it was regarded as a threat to their dominance by the older

\begin{footnotes}
\item[141] ibid.
\item[142] ibid.
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politicians. MINDECO, with its considerable potential influence on the enormously important mining sector, represented a powerful political base for Mulaisho, and with its predominantly white expatriate staff was consequently suspect in the eyes of many senior politicians. When power resided with the foreign companies, these politicians were at least assured that it would probably be exercised in a neutral fashion as regards the various factions within UNIP.

Mulaisho and MINDECO also earned the displeasure of key officials on UNIP's Central Committee by their attitude towards the possibility of establishing a steel mill in Zambia. These officials apparently viewed this project as an important symbol of Zambia's national status, and MINDECO was requested to carry out a feasibility study. This concluded that the venture would prove hopelessly uneconomic, much to the chagrin of its proponents.

By 1973 MINDECO had too many powerful enemies who were glad of the opportunity to declare its activities superfluous, and who would have regarded claims that its continued existence was essential for effective government control of the copper mines as mere self-justification. This raises an important point - Zambia was still without a body of experts trusted by her senior politicians. MINDECO had been unable to stay above politics, while the Mines Department was still characterised by the weaknesses discussed in the previous chapter, except that turnover among senior Zambian staff was
even more rapid after 1970, and that many of its technical and professional positions were now simply unoccupied for want of suitable candidates. In 1974, for example, only half of the established positions at this level were filled.

It is evident that majority ownership alone would not bring about effective government control, but was it essential if such control were to be established? For instance, the government might have gained considerable influence by obtaining minority participation (with the right to appoint a minority of directors) and developing sources of information and technical expertise on the lines described above. The latter would enable it to discover when corporate behaviour was in conflict with national policy aims; where this was the case, government directors could press for changes, and if their efforts failed sanctions could be imposed on the companies using normal legislative powers. Only in the area of profit reinvestment might such an approach leave the government without influence. Another alternative did of course exist in this area also - the government could have attempted to devise a taxation system which would have encouraged reinvestment.

144 Between 1970 and 1978, the Ministry of Mines had eight different Permanent Secretaries and the same number of Ministers. In 1978 alone, three different individuals held the post of Permanent [sic] Secretary.


146 It is debatable whether such a strategy would have succeeded in the wake of the decision to take over the mines. The government clearly took the view that it would not - the only initiative it took on taxation over the period 1973-8 was to increase the total tax rate from 73 to 75.5 per cent (in 1976).
Another aspect of the Take-over involves its effects on the quality of middle-level and senior management in the industry. Many expatriates are not prepared to commit their careers to government-owned mining companies operating in only one country. The result is that turnover among middle-level professional, technical and managerial personnel is very high, while the calibre of recruits has fallen. In fact many positions at this level are occupied by recent graduates seeking experience before applying for positions elsewhere. Disturbing in itself, the longer-term implications of this situation are even more serious. As senior technical and managerial staff leave the industry through retirement or for other reasons, suitable replacements will become more and more difficult to find. RCM and NCCM can, of course, attempt to recruit experienced personnel from abroad, but, particularly in the technical field, experience obtained elsewhere is a poor substitute for knowledge gained by working for many years in a particular industry and indeed frequently in a particular mine. Thus Zambia's copper industry may well face a managerial crisis until such time as Zambian graduates with sufficient experience become available.

Conclusion.

Two points arise from this discussion. First, a rational analysis of its situation would have led the Zambian government to seriously consider alternative strategies to

147 Interview with Assistant Permanent Secretary, Ministry of Mines, Lusaka, 18 July 1978.
that of assuming majority ownership. Secondly, if it was decided that majority ownership was the only acceptable policy, such an analysis would have led the government to acquire and retain an expert knowledge of the copper industry. It did not adopt such an approach, primarily because of political factors, not simply short-term considerations of the type which determined the timing of the Take-over, but more fundamental factors which reflected basic features of Zambia's internal and international political situation.

As mentioned above, Northern Rhodesia was created through amalgamation of disparate tribal and linguistic groupings. By Independence, Zambians had not developed a common culture or language which might have acted as a unifying force, and most lacked any strong sense of national identity. Their primary identification was still with their tribe and the region it inhabited. Reflecting this situation, political allegiance followed tribal or regional lines. There was little support for the concept that a government, whatever its own political power base, should continue to distribute economic and other benefits to all Zambians regardless of tribal or geographical origin. Consequently loss of political power was equated with loss of rights and privileges, with the result that the political system has been under constant and severe strain from the threat of violent conflict between tribal and regional groupings, or of secession by one or other grouping. The continued operation of the system has depended on the ability of President Kaunda, who is not identified closely with any one group, to
centralise considerable executive power in his own hands, and to maintain a balance of power between the various factions.

This situation has affected the formulation of mineral policy in a number of ways. First, President Kaunda views his own role as crucial, and is consequently prepared to go to considerable lengths to maintain his position; this attitude explains, for example, his use of the 1969 Take-over decision for political purposes. Second, centralisation of power in the President's hands has led to a quasi-dictatorial method of decision-making. It will be remembered, for instance, that the President did not inform even his Cabinet of the Take-over decision before it was announced. This approach militates against the (sometimes extended) discussion and analysis which can be crucial to rational decision-making. Third, the President is constantly on guard lest any individual establish a power base which might threaten the delicate balance of power or his own position, while senior politicians are determined that their rivals will not steal a march. Fears of this type lie behind the constant shuffling of senior political and administrative personnel, and they underlay MINDECO's failure to survive as an efficient monitoring agency. Fourth, that sense of insecurity has made Zambian politicians extremely sensitive to powerful foreign interests in their midst, and no foreign interest was more powerful than the mining companies.

The companies were doubly feared and disliked because they were owned and managed by whites. It is important to
emphasise again that many of the individuals who have governed Zambia since Independence suffered insult and injury under a discriminatory political regime whose existence was inextricably linked with the activities of the copper companies. This had a major impact on governmental attitudes — it made it difficult to assess rationally the need for the companies, their skilled personnel, and the need for white advisers to assist in policy formulation. It was easy and indeed satisfying to take over the companies, dispense as quickly as possible with expatriate staff, and formulate policy without consulting outsiders. It would have been very much more difficult, and perhaps politically dangerous, to offer corporate tax concessions, encourage expatriates to stay, and act on the advice of white advisers.

Political circumstances in Southern Africa reinforced these tendencies. The racism from which Zambians had suffered was still being practised against fellow Africans in Rhodesia and South Africa. Objectionable in itself, this situation was made even more so by Zambia's vulnerability to economic and even military attack from these countries; indeed at times it seemed that her very existence was threatened.\footnote{148} And the mining companies were closely linked with those same countries. AAC was South African owned, both parent companies operated in Southern Africa,\footnote{149} and both

\footnote{148} For example after UDI in 1965, after the closure of the Rhodesian border in 1973, and more recently with Rhodesian military attacks which have reached Lusaka itself.

\footnote{149} For details of AAC's and AMAX's operations in Southern Africa, see R. Sklar, op.cit., p. 169-76.
operating groups drew a high proportion of their goods and
services and their employees from that region. Little wonder
that Zambian leaders feared and distrusted the mining
companies, or that they had a sharp desire to assume
ownership of the copper industry, regardless of possible
economic costs and indeed regardless of a rational
examination of the best available means to acquire effective
control.

Zambia's colonial past intrudes into nearly every aspect of mineral development. Copper mining has supplied
large amounts of government revenue and foreign exchange,
but colonial policies led to a lopsided pattern of economic
development which has left Zambia utterly dependent on
these sources of income, creating major obstacles to
successful implementation of development policies. The
copper industry has generated considerable employment and
wage incomes both directly and in industries supplying it
with goods and services, but the closure of huge wage
differentials established under the colonial regime has
absorbed government revenue and indirectly retarded the
prospects for rural development. The technically-complex
copper industry offered opportunities for Zambians to acquire
new skills, but colonial educational and employment policies
prevented them from taking advantage of those opportunities,
and the legacy of those policies is still evident. In
addition, the failure to localise more quickly meant that
the copper industry's adverse impact on consumption patterns
was increased.

Thus her colonial past has reduced the benefits which
Zambia receives from mineral development and increased its
costs, while it has also militated against the rational policy formulation which would have allowed Zambian leaders to make the best of the situation they inherited.
Chapter Six

AUSTRALIAN GOVERNMENT POLICIES TOWARDS
FOREIGN MINING INVESTMENT, 1945-1975

Historical introduction

Australia was discovered by the Dutch in 1606, declared a British colony in 1788, and became a federation within the British Commonwealth in 1901. Its land area is 7.69 million square kilometers, much of it arid, barren, and remote from the eastern and southern coastal cities in which most of Australia's 14.3 million inhabitants live. Seventy one per cent of its workforce are employed in services (including government and public authorities), and 21 per cent in a manufacturing sector which enjoys a high degree of tariff protection. Agriculture and mining employ relatively few Australians (7 and 1 per cent of the workforce respectively), but both are efficient, export-oriented sectors which together provide Australia with 75 per cent of its export income. Australia has long experienced heavy and continuous imports of capital, used both as a source of investment and as a means of balancing its external payments, in which a surplus on the trade balance is usually converted into a deficit on current account by a substantial deficit on invisibles.

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2 The main invisible debits are transportation, travel expenses and investment income.
Australia's federal system was established with the intention of having a weak federal government exercising enumerated powers in areas such as defence, external affairs and immigration, and strong state governments exercising all residual powers and 'supreme in most fields of social and economic concern'. In the event, the federal government's effective authority increased steadily after 1901, with the two world wars and the depression of the 1930s representing watersheds in this process. However the states have vigorously defended their traditional powers; of particular significance in the present context is their continued control over mineral rights, a factor which has exercised an enormous impact on the process of mineral development.

The Australian economy is characterised by a strong government sector embracing transport, communication, provision of infrastructure, health, education and other social services. However, the Liberal/Country Party governments which have dominated federal politics since the late 1940s have generally opposed government intervention in commercial activity, except where private initiative has been lacking. The Labor governments of 1972-1975, the second of which was removed from office after a major constitutional crisis, adopted a more interventionist approach in this regard.

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5 J.D.B. Miller, 'Economic Choices and Chances', Seminar paper presented at the Australian National University, 12 April 1979, p.5.
Australia's federal parliament comprises a House of Representatives, chosen in proportion to population, and a Senate comprised of equal numbers of members elected from each state. Consequently, the government of the day may not enjoy a majority in the Senate, which can use its considerable powers of obstruction and delay to frustrate government initiatives.

Australia has a long history as an important mining country, but at the end of the Second World War mining activity was at a low ebb, reflecting the decline of gold mining and the general absence of new mineral development. Over the next thirty years, this situation changed dramatically, and by 1975 Australia was one of the world's leading mineral producers. The first significant discoveries in the post-war period were of uranium, at Rum Jungle in the Northern Territory (1949) and Mary Kathleen in Queensland (1954); at the same time, the value of mineral sand deposits along the New South Wales and Western Australian coasts was recognised. These discoveries acted to stimulate exploration, and in the mid and late 1950s massive bauxite deposits were located in Queensland, the Northern Territory and Western Australia. The removal of export bans on iron ore in 1960 led to the discovery and development of huge reserves of the mineral in the Pilbara region of Western Australia. The mid and late 1960s saw discoveries of nickel in Western Australia and Queensland, uranium in the Northern Territory, and massive coal deposits in Queensland and New South Wales. In addition,

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production of 'older' metals such as copper, lead, zinc and tin expanded significantly. Over the period 1965-1977, the value of minerals produced in Australia increased by more than four times (at constant prices), and the value of mineral exports by more than seven times.  

A number of factors accounted for this rapid growth in mineral exploration and development. Technological developments in the industrialised countries created markets of 'new' metals such as aluminium, nickel and uranium, while economic expansion in the United States, Europe and Japan greatly increased demand for minerals such as iron ore, coal and copper. The rapid growth of the Japanese economy was particularly significant, as Australia's geographical location gave it a competitive advantage in supplying Japanese markets. Developments in mining techniques and in sea transport of bulk minerals facilitated the economic working and shipment of bulk commodities with low unit values (iron ore, coal, bauxite).  

Government policies also played an important part. The establishment of the Bureau of Mineral Resources, Geology and Geophysics by the federal government in 1946 provided exploration companies with a valuable and inexpensive supply of basic geological information, and

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8 The single most important technological development was the application of capital-intensive highly-mechanised mining methods (developed in earlier decades to mine low-grade copper deposits in the U.S.) in the working of bulk commodities with low unit values, such as iron ore and bauxite.
many major discoveries resulted from advice proffered by the Bureau. Tax concessions offered by the Commonwealth government represented a major financial incentive, and also demonstrated a generally favourable attitude towards mineral development, whether financed by Australians or foreigners, an important consideration at a time when many newly-independent mineral producing countries were enforcing harsher terms on foreign investors.

For reasons explained below, many of the most significant and lucrative mineral developments of the 1950s and 1960s were financed and owned by foreign investors. This Chapter examines the policies adopted by Australian governments towards those investors, particularly over the period 1972-1975. The Labor governments which held office during these years were notable for the number, range and significance of the initiatives they took towards the mining industry. However, their policies were rarely expressed or justified in a cohesive or comprehensive form; consequently, major policy initiatives will be examined individually, after which an attempt will be made to draw various policy elements together and to outline their underlying assumptions. In the next Chapter, the validity of those assumptions and the appropriateness of government policies will be analysed in the light of an examination of the economic and other effects of foreign-financed mining projects.
Australian policies towards foreign investment, 1945-1972

By the late 1960s, the extent of foreign ownership and control in the mining industry was causing concern to many Australians. According to Bureau of Statistics figures, foreign ownership in the metal mining industry (expressed as a percentage of the value of production accounted for) increased from 39.8 per cent in 1963 to 53.6 per cent in 1968, while foreign control increased from 51.0 to 68.7 per cent over the same period.9 Adding to the concern was the fact that direct investment from a single country, the United States, accounted for nearly all of this increase.10 Concern with foreign investment in the mining industry was part of a broader re-appraisal of the role of such investment in the economy as a whole. Since 1945, Australian governments and their electorates had generally accepted that foreign investment was in Australia's benefit,11 but by the mid-1960s this assumption was increasingly being questioned.12

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9 Commonwealth Treasury, Overseas Investment in Australia, Treasury Economic Paper No.1, (Canberra, May 1972), Table 18, p.25. The criteria employed in defining the extent of foreign ownership and control are outlined in Appendix A, pp.138-9, of the Treasury Paper.
10 ibid, p.26.
11 B. Fitzpatrick and E.L. Wheelwright, The Highest Bidder: A Citizen's Guide to the Problems of Foreign Investment in Australia, (Lansdowne Press, Melbourne, 1965), pp.xi-xii. Public concern was generated on occasion, for example in the mid-1950s, when the U.S.-owned General Motors Holden earned very high profits, but it was not sustained.
The leaders of the ruling Liberal Country Party coalition publicly stated their sympathy with their constituents' fears, but generally failed to formulate policies which might have allayed them. As early as 1964, the Prime Minister, Sir Robert Menzies, expressed his concern with the increasing dominance of foreign investment, but proposed no action to stem or reverse the trend; rather he placed his hopes on an appeal to foreign investors 'to give Australians a share in their companies'.\(^{13}\) In 1969 his successor, Mr Gorton, stated his government's desire to see foreign investors operating on a joint basis with Australian concerns, and expressed confidence that overseas companies would respond to this desire.\(^{14}\) Despite evidence that these appeals were falling on deaf ears,\(^{15}\) similar statements were still being made by the Liberal Prime Minister, Mr McMahon, in 1972.\(^{16}\) In the intervening years, very little had been done to ensure that the government's 'hopes' would be realised, while the extent of foreign ownership and control in the mining and manufacturing sectors steadily increased.\(^{17}\)

\(^{13}\) Quoted in B. Fitzpatrick and E.L. Wheelwright, op.cit., p.xiii.


\(^{16}\) *CPD*, House of Representatives, Vol.80, 26 September 1972, p.1920.

\(^{17}\) *Commonwealth Treasury, Overseas Investment in Australia*, Table 16, p.22; Table 18, p.25.
Ad hoc measures were taken in response to particular situations. In May 1965 restrictions were placed on local borrowings by foreign firms in an attempt to ensure that Australian companies would not be deprived of capital, but these were not rigorously applied. In September 1969, a revised set of restrictions was introduced, with the ability of foreign companies to borrow in Australia being expressly related to the proportion of their equity held by Australians. Action was taken on two occasions to prevent foreign take-overs of individual firms in 'sensitive areas' (life assurance and uranium mining), and in 1972 an agency was established to screen future foreign take-over proposals, after a rush of such transactions had generated widespread public concern.

By the mid-1960s, a difference in emphasis was appearing within government ranks, with the Country Party under Mr (later Sir) John McEwan advocating the need for more positive action to encourage Australian participation in industrial and resource development. To this end, McEwan established the Australian Industry Development Corporation (AIDC). However, the AIDC was severely constrained in the type and range of activities it could undertake in attempting to assist Australian enterprises (see below, p.290).

None of these measures represented a fundamental departure from the previous 'open door' policy towards direct foreign investment, and there was in fact no serious re-appraisal of

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policy in this area, reflecting the coalition's belief that the overall impact of foreign investment was overwhelmingly in Australia's favour.\(^{19}\)

This general attitude was reflected in the government's approach towards foreign investment in the mining industry. In a major statement on mineral policy to the federal parliament in 1972, the Minister for National Development, Mr Swartz, stated that a prime objective was 'to ensure that Australians participate effectively both in the equity capital of natural resource projects and in their management'.\(^{20}\) However the Minister did not offer any suggestions as to how this objective might be achieved, and indicated that there was no intention of taking any action regarding the high current level of foreign ownership and control in the mining industry.\(^{21}\)

In the immediate post-war period, the Labor Party generally shared these favourable attitudes towards foreign investment.\(^{22}\) However by the early 1960s Labor Members of Parliament were expressing disquiet with the increasing role of foreign concerns,\(^{23}\) an attitude given considerable impetus

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21 Ibid, pp.15-17.

22 For an outline of the manner in which Labor Party policy developed, see H.F. Bell, *op.cit.*, pp.44-58.

23 See, for example, the statements by Labor MPs, *CPD*, House of Representatives, Vol.35, 11 April 1962, pp.1588-98.
by the large-scale foreign-financed mineral developments of
the 1960s. By 1972 the earlier bipartisan approach had
disappeared. The Labor Party still supported foreign involvement
in mineral development officially, but it also advocated
active intervention by the Commonwealth to contain the growth
of foreign ownership and control of mineral resources and
to encourage Australian participation in mineral
development.

In replying to the 1972 Ministerial statement on
resources policy, Labor spokesmen outlined their Party's
position in greater detail. They recommended that in future
priority be given to Australians and Australian companies in
resource development. Where mineral resources were already
in the possession of foreign companies, Australians should
be offered a chance to participate in their development
either directly or through the share market. If domestic
private investment were not forthcoming, the Australian
government should consider entering into partnership with
the foreign concern. In general, they were critical of what
they saw as the Liberal Party's 'colonial mentality' and
its 'soft approach to multi-national corporations', and
recommended that government adopt a harder line to ensure
'maximum Australian equity, participation and control'. More
specifically, they argued the need for government action to
ensure that pricing policies adopted by foreign mining concerns
were in Australia's interests, that such companies would supply

25 ibid, pp.3343-51.
the government with detailed information regarding their operations, and that Australian minerals would, as far as possible, be processed in Australia.26

On 20 September 1972 the Labor Party released a statement of its policy towards foreign investment in general. This emphasised the need to contain and even reverse the trend of growing ownership and control in resource industries, stating that a Labor government would 'act as necessary to retain and regain maximum Australian ownership of and control of industries and resources'.27 It also outlined concrete proposals for encouraging Australian participation in resource development. The role of the AIDC would be expanded, with the objective of ensuring 'majority Australian ownership and control over existing and future enterprises'. A National Development Corporation would be established to mobilise Australian capital by issuing Commonwealth-guaranteed National Development Bonds; where necessary, domestic funds would be supplemented by selling these bonds overseas. Another aim of this Corporation would be to ensure that existing Australian equity in resource projects remained in Australian hands. The government would also encourage life assurance companies and superannuation funds to increase their investments in resource projects by granting taxation and other incentives.28 In general, the emphasis would be 'not so much [on] permitting foreign capital to do

26 ibid, pp.3347-8.
28 ibid.
A Labor government would review the taxation provisions applying to mining companies, take action to ensure that export prices were maximised, and pursue maximum treatment and fabrication in Australia of Australian resources.\(^{30}\)

The Labor Party was elected to office on 2 December 1972, and over the next three years attempted to implement the policies outlined above. For the purposes of this analysis, its initiatives can be divided into five categories, though many of the measures taken were in practice closely linked. The first category involved plans to mobilise Australian private capital, the second concerned direct government participation in mineral exploration and development, the third involved formulation of ownership guidelines for future mining projects, the fourth the application of controls to mineral exports, and the fifth the amendment of income tax legislation governing the mining sector.

Mobilisation of domestic capital and the AIDC

The AIDC was chosen as the agency through which it was hoped to mobilise private domestic investment capital for resource exploitation. Under the establishing legislation,\(^{31}\)

\(^{29}\) CPD, House of Representatives, Vol.80, 26 September 1972, p.1923.

\(^{30}\) ibid, pp.1922-3.

\(^{31}\) The Australian Industry Development Corporation Act 1970.
the AIDC's role was primarily to provide short-term assistance to Australian private enterprise in an attempt to increase domestic participation in industrial and resource development. It did this mainly by bringing together parties who in combination might be able to undertake major projects, and by providing a part of capital requirements (in loan or equity form) where this would ensure project viability. It was expected to sell any equity it acquired to private investors at the earliest opportunity, it could only purchase equity when providing capital for development, it could not itself initiate investment proposals, and could not be the sole Australian participant in joint ventures with foreign concerns. Its borrowing powers were limited and it was normally expected to borrow abroad. Clearly the AIDC's powers and the scope of its activities would have to be expanded if it was to perform the role assigned to it in Labor party policy.

Proposals to do so were incorporated in legislation introduced by the Minister for Overseas Trade and Secondary Industry, Dr Cairns, in August 1973. The Australian Industry Development Corporation Bill in 1973 proposed that the AIDC would be allowed to initiate investment proposals itself, retain shares it purchased, borrow more substantial amounts on foreign and Australian markets, and purchase equity in existing concerns. Capital to fund the AIDC's activities would be mobilised through the National Investment Fund (NIF), to be established by concurrent legislation. The NIF would

set up savings plans similar to superannuation schemes to which individual Australians could contribute; contributions up to a certain limit would be tax deductible. It would also establish a number of investment divisions, and for each division there would be a series of investment bonds and a corresponding portfolio of assets. Income to the investor would be paid out of the income earned by the assets in his division of the fund, and to encourage investment the government would contribute $10 to the fund for each $100 invested by individual Australians. Investment bonds would also be used to channel foreign investment into mining projects. The foreign investor would be entitled to income earned by the project and to the benefit of any growth in its capital value, but ownership and control would remain in Australian hands.\(^{34}\)

The AIDC's principal aims would be to create opportunities 'for the ordinary citizen to share in the kind of capital appreciation which so far has been confined to a very small percentage of the Australian people', and in the process to strengthen the individual Australian enterprise so that large Australian companies could grow up alongside the existing foreign ones.\(^{35}\)

The AIDC would have two other roles. Where the Corporation deemed it 'economically prudent and possible to do so' it would act to regain control of foreign-owned industries. Indeed in Dr Cairn's personal view one of the AIDC's main aims would


\(^{35}\) ibid, p.656.
be to 'buy back Australia', and he stated his approval for a proposal by Conzinc Riotinto of Australia (CRA) to sell 5 per cent of its equity to the Corporation.

The second role would be to act as an intermediary for government involvement in mineral-related developments. Where the AIDC decided it should not invest contributors' funds in a project because of high risk levels or the scale of expenditures involved, the government might decide to provide the necessary capital itself, and would do so through another division which it proposed to add to the AIDC, the National Interest Fund. Labor spokesmen made it clear that the Fund would be used as a vehicle for direct government participation in resource development, particularly in mineral processing (for example uranium enrichment).

The Liberal and National Country parties opposed the Bills on a number of grounds. They claimed that the AIDC would do

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36 ibid, 29 August 1973, p.515.
37 'The High Cost of Nationalism', Age, 14 April 1973. Dr Cairns apparently soon lost his enthusiasm for the CRA scheme.
38 Government capital would be kept separate from other funds to protect contributors from loss, and the government would exercise control over its expenditure, whereas the AIDC would enjoy considerable autonomy in its other investment decisions.
40 Only those objections based on economic grounds are dealt with in the text. The opposition also rejected the Bills on ideological grounds, arguing that the AIDC's activities would bring about a massive transfer of resources from the private to the public sector, a 'socialisation of Australian industry', a prospect which both parties found repugnant. CPD, House of Representatives, Vol.86, 16 October 1973, pp.2162-6, 2174.
little to mobilise additional domestic investment, pointing out that Australia already had a very high savings ratio by world standards. Rather, because of the incentives they would offer to investors, the AIDC and the NIF would successfully compete for funds with existing savings institutions and with government and semi-government agencies. Capital invested by the Corporation would thus be withdrawn from other uses, for example provision of housing and other infrastructure. If the foreign investment displaced by the AIDC left the country, the overall level of investment would decline, with consequent loss of income, employment and government revenue. The opposition argued that in fact foreign concerns would not invest in enterprises which they neither owned nor controlled, and would not transfer their funds into activities traditionally carried on by building societies and other saving institutions.\footnote{41}

Opposition spokesmen were particularly critical of schemes to 'buy back' equity in foreign mining companies, arguing that they might not in fact ensure Australian control of the enterprises involved while creating costs of the type outlined above. Support for this argument was drawn from the 1972 Treasury Paper on Overseas Investment, which had outlined the manner in which foreign mining companies could, by well-timed minority issues of shares in their subsidiaries, increase the size and profitability of their Australian operations without foregoing ultimate control. The Treasury had concluded that 'such issues may in fact yield a rather small return to Australia in terms of alternative uses of domestic savings'.\footnote{42}

\footnote{41} ibid, pp.2162-7.
\footnote{42} Commonwealth Treasury, Overseas Investment in Australia, p.97.
The issue of share purchases in mining companies raised two broader questions. The first related to efficiency in the allocation of capital resources. The opposition was not convinced that the AIDC could guarantee returns on funds higher than or even equal to those being earned by private investment corporations, and believed that it might well earn lower rates as its investment decisions would be influenced more by the desire to maximise Australian ownership than by purely commercial criteria. Consequently opposition spokesmen could see no reason for transferring private investment capital to the AIDC.\(^{43}\)

The second issue involved the relationship between ownership and control. The opposition accused the government of failing to examine this relationship in detail, and claimed that Australian control of mineral development could be ensured without resort to what it saw as the unnecessary expense of acquiring ownership of foreign mining concerns.\(^{44}\)

The government's view was that foreign concerns would in fact be willing to invest in mineral development through the AIDC, partly because such investment would yield a substantial profit, but more importantly because the investor would be given guaranteed access to the minerals being produced: this was thought to be a more significant consideration than being granted equity, particularly to Japanese companies operating in the energy minerals sector (coal, uranium).\(^{45}\)

\(^{43}\) *CPD, House of Representatives, Vol.86, 18 October 1973, pp.2343-4.*

\(^{44}\) *ibid, 16 October 1973, pp.2172-4.*

\(^{45}\) *ibid, Vol.86, 16 October 1973, p.2170.*
spokesmen pointed out that Australia generated some 90 per cent of her capital requirements internally, presumably implying that the economy would not be unduly affected if foreign funds were withdrawn. It was also emphasised that a major part of the AIDC's activities would involve mobilisation of Australian capital to develop new mineral discoveries, and that in these cases there would be no question of displacing foreign capital.

The government claimed that Australia would suffer considerable loss if it failed to bring foreign-financed mining projects under national control. Their principal concern was that mineral exports would be underpriced, reducing tax liability (and so government revenue) in Australia. As Dr Cairns stated,

> without strong Australian participation, we will have the prospect of Australian resources and industries being developed to maximise the global profits of multinational corporations, and very often at lower prices than if we in Australia were able to match a little closer their monopolistic powers.

More generally, it was claimed that Australia's lack of control over her mineral resources was one factor in placing her in an 'economically subservient position' in relation to her principal trading partners, denying her the opportunity to use her possession of valuable resources as a bargaining counter in diplomatic negotiations, and effectively reducing Australia's

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46 ibid, p.2186
47 ibid, p.2190
48 ibid, pp. 2170, 2190.
control over its own destiny.\textsuperscript{50}

The AIDC and NIF Bills were delayed in the Senate, reintroduced in the House, delayed once again by the calling of a general election in April 1974, and introduced for a third time in July 1974. The Senate finally accepted an amended version of the AIDC Bill in March 1975.\textsuperscript{51} It continued to reject the NIF legislation, which was of course integral to the government's whole concept of the AIDC's role, and which had not yet been ratified when Labor was removed from office in November 1975.

Direct government participation in mineral exploration and development

The platform on which the Labor party fought the 1972 election included a call for

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the comprehensive development under Government control of Australia's mineral resources with emphasis on the need for discovery of new deposits and direct Commonwealth and State participation in oil and mineral search and exploitation...\textsuperscript{52}
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In December 1973 the Minister for Minerals and Energy, Mr Connor, introduced legislation for the establishment of a Petroleum and Minerals Authority (PMA), which was intended to be the principal vehicle for federal government action in this area.

\textsuperscript{50} ibid, Vol.86, 16 October 1973, pp.2186, 2191.

\textsuperscript{51} The most significant amendments prevented the AIDC itself from raising funds except by borrowings, enjoined it to dispose of shares 'not necessary for the performance of its functions', and placed restrictions on its ability to gain control over business enterprises.

\textsuperscript{52} \textit{CPD}, House of Representatives, Vol.87, 4 December 1973, p.4244.
The function of the PMA would be 'to explore for and develop petroleum and mineral resources and to assist in implementing the Government's policy of promoting Australian ownership and control of natural resources and resource industries'. A crucial aspect of its work would be to help implement the government's energy policies, and consequently much of its effort would be concentrated on petroleum and natural gas, but its activities would extend to non-fuel minerals. In particular, it would have the task of encouraging increased Australian ownership and control in this latter area. Where Australian ventures had discovered promising mineral deposits but were unable to finance further exploration and development, the PMA would provide assistance. Mr Connor pointed out that existing Australian mining concerns had a limited capacity to take on new ventures, and that local exploration companies found themselves turning to foreign investors to provide finance; as a result, the latter secured an interest in Australia's mineral resources.\(^{53}\) The PMA would remove the need for foreign capital by providing equity, loans, or guarantees, financing its activities from funds saved by the Treasury by abolishing tax concessions previously granted to individuals and companies contributing to private exploration programmes (see below, p.313).\(^{54}\) Mr Connor stated the PMA would not take over foreign equity in existing mining ventures.

\(^{53}\) ibid, p.4248

\(^{54}\) ibid, Vol.88, 8 April 1974, p.1155.
but only assist local concerns in developing new discoveries. In pursuit of its functions the PMA could 'undertake activities appropriate to a petroleum and mining business.... employing its own personnel and equipment in search, letting out contracts for search, acting in partnership with companies, ...[and] taking up shares in companies'. The Authority would initiate exploration on its own behalf by publishing a notice in the government Gazette to the effect that a particular area had been declared an exploration area for the purposes of the establishing Act. It would not enter land until the written permission of the occupier had been received, but if this was not forthcoming a Justice of the Peace could issue a warrant permitting entry.

The opposition rejected the proposed legislation vehemently. It claimed the PMA would be another vehicle for the government's plans to 'socialise' Australian industry, that the powers of entry conferred on the Authority would allow it to usurp promising exploration areas held by private concerns, take over mineral deposits discovered by other prospectors, and even nationalise existing mining operations. Undesirable in itself, this prospect would also have serious side effects. It would destroy the traditional power of the states to allocate mineral

56 ibid, pp.4247-8.
57 ibid, 12 December 1973, p.4602.
58 ibid, pp.4598, 4602, 4630-2. The opposition also claimed that the legislation failed to provide for adequate compensation if confiscation did occur.
rights. The threat of nationalisation would have a disastrous effect on mineral exploration. Foreign companies would be unwilling to invest risk capital knowing that any discoveries might be confiscated, while the uncertainty created by the PMA's existence would make it difficult for local concerns to raise finance. It was claimed the legislation would have this effect regardless of the government's actual intentions, since the threat of confiscation would constantly be looming over the industry. The opposition also pointed out that the Treasury would save only about $50 million by abolishing the tax concessions, a sum which could not possible make up for the predicted decline in private exploration.

The opposition also rejected the legislation on other grounds. It was opposed in principle to the use of taxpayers money in high-risk activity, particularly in the area of non-fuel minerals where, it claimed, plentiful reserves were already available for mining. Opposition spokesmen also objected to what they saw as the Authority's favoured position in relation to the private concerns with which it would be competing; in their view, the establishing legislation would exempt the PMA from state royalties and give it access to unlimited interest-

59 ibid, pp.4609, 4630.
60 ibid, p.4628.
61 ibid, Vol.88, 8 April 1974, p.1165.
63 ibid, p.4601.
64 ibid, pp.4601, 4608.
65 ibid, pp.4602, 4606.
free capital appropriated from taxpayers' funds. 66

Opposition leaders made it clear the government had in their opinion exceeded its legal authority in proposing to establish the PMA, and that the relevant legislation would be challenged in the Courts on constitutional grounds. 67

In reply, government spokesmen claimed the PMA's exploration activity would be concentrated on off-shore and petroleum and natural gas search, and that its principal task in relation to non-fuel minerals would be to assist private Australian concerns. 68 They argued there was a need for direct government participation in the minerals and energy sector if decision-making was to be based on the 'community good', and not just on the motivation of private shareholders or multinational corporations. More generally, they claimed it was necessary to increase Australian ownership of resources (by public and private concerns) if Australia was not to be 'ripped and raped' by foreign companies. 69

In particular, concern was expressed that Australian mineral exports would be underpriced while such companies were in control. 70

The Petroleum and Minerals Authority Bill was passed by the House of Representatives on two occasions in 1973-4, but was rejected on both by the opposition-dominated Senate. Along with a number of other bills it was the basis for a double

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66 ibid, pp.4609, 4616-7.
67 ibid, Vol.88, 8 April 1974, p.1161.
68 ibid, pp.1154-5; Vol.87, 12 December 1973, pp.4607, 4612.
70 ibid, Vol.87, 12 December 1973, p.4626.
dissolution of Parliament in April 1974, and when the Labor Party was returned to office it pushed the measure through in a joint sitting of both Houses. The Act was already under challenge in the High Court on technical grounds, but the Authority was constituted in any case, in August 1974. The High Court found the Petroleum and Minerals Authority Act invalid in June 1975. The government announced plans to re-introduce it, and in the meantime to establish a corporation which would perform the Authority's functions, but it proved legally impossible to transfer funds voted by Parliament to this corporation. A considerably modified version of the Act was introduced in October 1975, but the Labor Party's electoral defeat in December prevented further action.

During the short period for which it was operational, the PMA had available neither the time nor the resources to organise an exploration programme on its own behalf, but it did become involved in a number of existing mining ventures. For example in October 1974 it acquired a 49 per cent shareholding in the Wambo Mining Corporation, a New South Wales coal producer which was then suffering from cash shortages. Wambo unsuccessfully

71 The challenge was based on the fact that the required three months had not elapsed between the Bill's rejection in the Senate and its re-introduction in the House.

72 The amended version of the Act modified those of the Authority's powers which had been most vehemently rejected by the opposition, for example those relating to acquisition of mining interests and to the Authority's right to enter land under warrant of a Justice of the Peace.
sought help from a number of Australian companies, after which it considered admitting the Anglo American Corporation of South Africa Limited as a shareholder under an arrangement which would have raised its level of foreign ownership from 17 to 53 per cent. Wambo approached the PMA, which agreed to pay $3.7 million for 49 per cent of the company and provide credit facilities. The Authority assisted a number of other Australian companies in this way, but its largest single venture was motivated by a desire to increase Australian ownership in a foreign firm. This involved the acquisition of shareholding in Dehli International Oil Corporation, a wholly U.S.-owned company which controlled oil and natural gas deposits in South Australia.

Another vehicle for direct government participation was the Australian Atomic Energy Commission (AAEC). In mid-1974 the AAEC agreed to underwrite a share issue by the CRA subsidiary, Mary Kathleen Uranium (MKU), when it became apparent that the level of foreign ownership in MKU would otherwise increase; as a result, the AAEC obtained a 46 per cent holding in the company.

73 'Wambo Shares Purchased: Media Statement, R. Connor, 23 October 1974'.
74 The PMA paid $12.7 million for a 50 per cent interest in Dehli's Copper Basin reserves and a 25 per cent interest in its exploration ventures outside the Basin. Its purchase raised Australian ownership in the Basin's reserves from 37 to 53 per cent. 'Authority to Acquire Oil and Gas Interest: Media Statement, R. Connor, 2 February 1975'.
75 'Reopening of Mary Kathleen Uranium Mine: Media Statement, R. Connor, 14 August 1974'.
The government undertook a much more substantial commitment by involving the AAEC in the Northern Territory Ranger uranium project, controlled by two predominantly Australian-owned companies, EZ Industries and Peko-Wallsend. In October 1973 the government concluded an agreement with these companies whereby it would provide 72.5 per cent of the project costs (then estimated at $100 million) in return for 50 per cent of the uranium concentrates produced. According to later reports, EZ Industries and Peko-Wallsend were far from happy with the government's involvement, which they regarded as 'effective expropriation', and only agreed to the arrangement in the belief that to do otherwise would be to risk losing their entire investment.

What prompted the government to become involved in an Australian mining enterprise? Its concern to exercise control over energy sources was clearly important; in addition, it may have felt that the Ranger partners' need for finance might force them to involve foreign investors in the project. Perhaps most importantly, two of the other large Northern Territory uranium deposits, which would be developed later, were foreign owned (Jabiluka and Koongara). The government had decided to acquire a 50 per cent holding in these ventures, and may

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76 By 1979 the estimated cost of this project had risen to $300 million.


78 Jabiluka was controlled by the U.S.-based Pancontinental Mines Ltd, Koongara by the Canadian Noranda Mines Ltd.

79 'Northern Territory Uranium Program Outlined: Media Statement, R. Connor, 31 October 1974'.
consequently have felt that it had to set a precedent with the first major development.

Ownership guidelines for the mining industry

The third category of initiatives involved the formulation of ownership guidelines for future mining projects. At an early stage the government made it clear that in future there would be 'at least majority Australian control over both equity and policy in resource development'. In October 1973 the Prime Minister, Mr Whitlam, issued a major policy statement on foreign investment, and this explained the government's position in greater detail. Its general aim would be 'to achieve the highest possible level of Australian ownership', by which was meant 'the highest Australian equity that can be achieved in negotiations, project by project, that are fair and reasonable to both parties and are within the capacity of our own savings to support'.

Thus Mr Whitlam indicated his government's belief that continued foreign investment might be required, and he went on to say:

I want to make it clear that there is no prescription of foreign equity participation in mining. In some circumstances it may be acceptable for foreign investors to participate significantly in decision-making in a project. The size of the project, the amounts involved, and the type of mineral are all factors to be taken into account. In pursuing our objectives we shall be

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81 'Foreign Investment in Australia: Speech by the Prime Minister, Mr Whitlam, at the Australia-Japan Ministerial Committee Meeting, Tokyo, 30 August 1973'.

flexible and guided by the particular needs of particular cases.\textsuperscript{82}

However this flexible approach would not apply to fuel minerals, particularly uranium. Growing world energy shortages and 'other factors' dictated that full Australian ownership and control would be sought in this area.\textsuperscript{83} Nevertheless the government recognised that in this case also Australia's resources of capital and technology might be inadequate, and that it would consequently 'need to call upon overseas expertise, technology and capital...'. However overseas participation would be sought 'through access to technology, loans and especially long-term contracts', rather than through equity ties.\textsuperscript{84}

Exploration for uranium would also be carried out exclusively by Australian concerns, but in regard to exploration for other minerals Mr Whitlam stated:

In order to maintain a desirable level of exploration activity, we would, if necessary, accept a lower level of Australian ownership in exploration. Given the limited Australian capital resources available and the higher risks usually involved in exploration, there is much to be said for concentrating equity at the production stage.\textsuperscript{85}

This policy was based on a number of important assumptions. The first was that foreign investors would be willing to supply capital and technology without obtaining equity. The second was

\textsuperscript{82} ibid.

\textsuperscript{83} ibid. Full Australian ownership and control was regarded as an 'objective' in uranium projects and as 'a desirable objective' in oil, natural gas and coal projects.

\textsuperscript{84} ibid.

\textsuperscript{85} 'Northern Territory Uranium Program Outlined: Media Statement, R. Connor, 31 October 1974'.
that Australia could generate sufficient capital to maintain or increase exploration for fuel minerals, and to provide a high proportion of development finance for fuel and non-fuel mineral discoveries. The third was that foreign mining concerns would be willing to finance the bulk of expenditure on exploration for non-fuel minerals in the knowledge that, if successful, they would be expected to offer an unknown proportion of their equity to Australian concerns. The validity of the first two assumptions is analysed in detail below; as regards exploration, time alone would tell whether foreign companies would be prepared to operate under these conditions, but the view of overseas companies then operating in Australia was that they definitely would not. One point was clear - the guidelines relating to exploration and development of non-fuel minerals left considerable uncertainty as to what level of foreign participation would be acceptable, and this in itself was likely to have an adverse effect on exploration.

When Mr Whitlam issued his next policy statement on equity guidelines in November 1974, the emphasis had shifted somewhat. The government's aim was to achieve 'maximum Australian ownership compatible with Australia's long-term capital requirements and its needs for access to markets, advanced technology and know-how'.

86 In real terms, expenditure on mineral exploration fell substantially between 1972 and 1975, but it is not apparent whether this was due to the equity guidelines alone, to uncertainty created by the Labor government's other initiatives, or to other factors.

Mr Whitlam added:

The Government recognises however, that many of the important existing enterprises engaged in the development of Australian resources are under foreign equity control. For this reason, the promotion of Australian equity in and control of our resources and industries must be viewed as a longer-term objective. 88

The statement repeated the government's recognition of the need for foreign investment, particularly in exploration, and again stressed that Australian equity would be concentrated at the production stage. There was still no indication as to precisely what level of foreign participation would be acceptable. 89

Though stressing the need for foreign investment in exploration, the government did insist that Australian concerns be invited to participate in all new exploration ventures. Over the period to March 1975, it refused some 30 foreign companies permission to import funds for exploration until this requirement had been satisfied. 90

More definite equity guidelines were not laid down until September 1975. The requirement to seek Australian participation at the exploration stage was removed, 91 and Mr Whitlam announced that:

88 'Foreign Equity in Mining: Media Statement, E.G. Whitlam, 3 November 1974'.
89 ibid.
90 'Share or no funds: Canberra', Age, 1 March 1975.
91 'Policy on Foreign Investment: Statement by the Prime Minister, Mr Gough Whitlam, 24 September 1975'. However, foreign companies would be required to report to the Treasurer when the proving-up stage was reached and in any case every two years on the efforts they were making to attract Australian participation in their exploration activities.
the Government will expect proposals for all new mineral development projects (other than those relating to uranium) to have no more than 50 per cent foreign ownership and with the foreign participants having no more than 50 per cent of the voting strength on the board of the development company. The Government will not insist on the Australian participants necessarily being the technical operators and supervisors of the project, but will expect Australian nationals to have a significant role to play in the management, technical operation and control...In considering proposals for foreign equity participation...account will be taken of the expected main source of demand for the output of the development.  

However it was stressed that all foreign investment proposals would be examined on a case by case basis to ensure maximum benefit to Australia.

The reference to the source of demand for mineral output reflected the government's recognition that availability of secure markets was frequently dependent on the potential customer being permitted to take a major shareholding at the mining stage. This represented a fundamental departure from the previous position, which was based on the assumption that customers would be willing to forgo ownership in return for security of supply, and which ignored the fact that many consumers equated security of supply with a measure of ownership and control.

Mr Whitlam's announcement was greeted with approval by mining industry spokesmen, who felt that the stipulation of minimum Australian equity removed much of the uncertainty created by the previous ad hoc approach, allowing foreign companies to plan accordingly.

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92 ibid.
93 ibid.
94 'Whitlam's new guidelines demand 50% Australian ownership', *Age*, 25 September 1975.
Export controls

Another means of implementing policies was provided by the Commonwealth's control over mineral exports, derived from the federal parliament's jurisdiction over international trade. Mineral exports had been subject to federal control on a number of occasions prior to 1972, mainly for purposes of conservation (iron ore from 1938 to 1960) or on grounds of national security (uranium). In the decade to 1972, controls were generally relaxed, though the government did intervene to insist on price increases for iron ore shipments to Japan in 1966, and to set floor prices for zircon exports in 1971. All of these actions were taken on an ad hoc basis in response to specific problems, and generally involved only one mineral at a time.

When the Labor Party came to office, it announced that all minerals would be subject to control on a continuous basis. Beginning in March 1973, applications for export licences would have to be cleared by the Department of Minerals and Energy. In order to obtain clearance, exporters would have to supply the Department with copies of existing sales contracts and other relevant documents affecting quantities, price and conditions of export, and to consult with it prior to finalising new export contracts.

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95 G. Stevenson, Mineral Resources and Australian Federalism, Centre for Research on Federal Financial Relations Research Monograph No.17, (Australian National University, Canberra, 1976), pp.48, 52. The government maintained a limited supervision of iron ore exports over the period 1966-72; it set minimum prices, which in practice were rarely exceeded, and read the export contracts, which it almost invariably approved.

96 'Mineral Exports Controlled: Press Statement, R. Connor, Canberra, 23 February 1973'. 
The government had at least three distinct reasons for applying export controls. The first was to obtain information. Mr Connor complained that his predecessors had kept no records regarding export prices obtained, the degree to which these corresponded to 'world parity' prices, the periods over which contracts applied, or the currencies in which they were denominated. Because of constitutional limitations on federal jurisdiction over mineral rights, export controls represented the only means by which the government could obtain this and other data on which to base its policy decisions.97

Secondly, the government feared that mineral exports might be undervalued, for two reasons. First, transfer pricing might occur between subsidiaries of vertically-integrated multinational mining companies, especially in the aluminium industry. Secondly, closely co-ordinated buyers might hold a bargaining advantage over Australian suppliers who were fragmented and frequently competing among themselves for export markets. Of particular concern in this latter regard were sales of iron ore and coal to Japanese companies, who operated through a single buying agency. The fact that a number of Japanese customers were shareholders in the Australian companies with which they held contracts, and that close ties existed between those customers and the Japanese government, provided additional grounds for anxiety that Australia might not be receiving the full value of its exports.98

98 G. Stevenson, op.cit., p.48.
Thirdly, export controls could provide the government with a power of veto over the development of new mines, allowing it to ensure that its guidelines on issues such as foreign equity participation or environmental protection were adhered to. 99

In 1973-4, the government utilised its export controls to impose a more co-ordinated approach on mineral exporters, particularly on Western Australian iron ore producers. Price guidelines were agreed upon at meetings with these producers prior to each set of negotiations with the Japanese, a strategy which apparently had some success. In May 1973 the iron ore companies won substantial price increases from the Japanese to compensate them for devaluation of the Australian dollar (their contracts were denominated in U.S. dollars). 100 In August 1974 Mr Connor instructed the producers to re-negotiate increases in iron ore prices, with the result that prices increased by 28 rather than 24 per cent. 101 Subsequently, the depressed state of world iron ore markets restricted the government's ability to act in this way, and no further increases were obtained until April 1976.

Prices for coal exports also increased substantially after the controls were introduced, but this was apparently due to the impact of world energy shortages rather than to the government's intervention. 102

99 ibid, p.49.
101 'Iron Ore Export Contracts: Media Statement, R. Connor, 29 August 1974'.
102 G. Stevenson, op.cit., p.52.
Mining industry taxation

Under provisions of the Income Tax Assessment Act implemented in 1968 and prior years, mining companies and certain of their shareholders were permitted to reduce and/or postpone their liability to taxation by means not available to other taxpayers. These special provisions fell into four categories. Sections 77 and 78 allowed individuals subscribing to shares in exploration or mining companies to deduct part or all of the amount subscribed in calculating their taxable income.\textsuperscript{103} Section 23 exempted certain types of mining income from taxation; its most significant provision exempted 20 per cent of net income earned from mining prescribed minerals, including bauxite, copper, nickel, mineral sands and tin. The remaining concessions, involving deduction of capital expenditure in assessing taxable income, were covered by Division 10 of the Act. 'Category A' concessions permitted deductions in respect of items not allowable for other taxpayers, for example preliminary site preparation and construction of housing and community facilities. 'Category B' concessions allowed mining companies to apply generally available allowances at an accelerated rate.

The effect of these concessions was that, especially during periods of major capital expenditure such as occurred in the mid and late 1960s, mining companies paid rates of tax considerably lower than those applied to all corporations, as Table 14 illustrates.

\textsuperscript{103} Section 77C and 78(1)(b) allowed subscribers to mining companies to deduct one third of the amount subscribed in calculating their taxable income. Section 77D permitted deduction of sums subscribed to exploration companies, providing that the company involved waived its right to claim ensuing expenditure against any income it might earn.
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<td>Company Income ($m)*</td>
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<td>2,586</td>
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<td>1,070</td>
<td>1,337</td>
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<td>1,885</td>
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<td>42</td>
<td>42</td>
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<td>Tax Rate (%)</td>
<td>27</td>
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<td>10</td>
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Notes: * Excludes tax payable by private companies.
** Tax ratios vary from the company tax rate because the income on which tax is assessed by the taxation authorities differs from company income calculated for National Accounts purposes.
The concessions to individual taxpayers granted by Sections 77 and 78 were apparently inefficient in promoting mineral exploration. According to one estimate, only 27 per cent of the amounts claimed was actually spent on exploration or development, while the concessions were employed by some subscribers in tax avoidance schemes. In May 1973 the Labor government announced their termination, claiming that exploration could be promoted more efficiently by channeling the funds saved by the Treasury through a government mining corporation.

Some months later the Minister for Minerals and Energy, Mr Connor, commissioned a consultant, T.M. Fitzgerald, to examine the whole question of income tax for the mining industry. His report, The Contribution of the Mineral Industry to Australian Welfare, was published in April 1974.

Fitzgerald concluded that the application of the Income Tax Assessment Act represented a substantial subsidisation of the mining industry from public funds. He rejected industry

104 R.B. McKern, 'Foreign Direct Investment in the Financing of the Australian Minerals Industry', paper presented to the 101st annual meeting of the A.I.M.E., San Francisco, 1972. Mining industry spokesmen refuted McKern's claim, arguing that the concessions were valuable in promoting mineral exploration. However in evidence to an Industries Assistance Commission Inquiry the Australian Taxation Office described them as 'costly and inefficient' and claimed that they 'opened up avenues for tax avoidance by persons who contributed little, if at all, towards mining development in Australia'. Industries Assistance Commission, Report, Petroleum and Mining Industries, 28 May 1976, (Government Printer, Canberra 1976), p.47. (Hereafter referred to as Report, Petroleum and Mining Industries).

106 Government Printer, Canberra, 1974. (Hereafter referred to as 'Fitzgerald Report')
claims that the concessions relating to capital expenditure simply postponed liability to taxation, pointing out that Category A deductions were not available to other companies and that their application exempted permanently from taxation a proportion of income which would have been taxable in the hands of such companies. He also pointed out that, where capital expenditure was maintained at high levels over an extended period of time, application of Category A and B concessions would postpone liability to taxation long after expenditures associated with the initial development had been allowed for. By way of illustration, he quoted the example of Mount Isa Mines, which was then still paying less than 10 per cent of its net income in tax, twenty years after the initial development of its copper deposits was completed. In fact, Fitzgerald argued, a mutually reinforcing relationship existed between the tax concessions and growth of productive capacity in the mining industry: growth created tax concessions, and the tax concessions helped to finance greater growth while also providing incentives for growth.

Fitzgerald opposed the concessional treatment afforded the mining sector on a number of grounds. First, he claimed it might encourage inefficient allocation of resources, by subsidising investment in export generating activity which was surplus to Australia's foreign exchange requirements. He argued that the priority attached by policy-makers to earning


108 ibid, pp.32-7, Table 18, p.90.

109 ibid, pp.24-5.
foreign exchange in the 1960s was no longer appropriate, since Australia's balance of trade was in surplus and her foreign reserves substantial. In his view, 'opportunities for obtaining additional foreign exchange (were) a gift horse to be looked in the mouth'. The principal consideration in allocating resources should be the impact of alternative uses on national income and its distribution; since foreign ownership was high in the mineral industry, concentration of resources in that sector would result in a growing drain on national income, and was consequently not to be encouraged. Fitzgerald also feared that the economies of capital cost which the taxation system allowed an expansive and heavily borrowing mining company might mean that it would benefit from increased production even where this resulted in lower prices. If this occurred, Australia might be denied part of the value of its resources, to the benefit of (predominantly foreign) buyers of the minerals concerned.

His second principal objection was based on the contention that a high proportion of the value of the mineral industry's output derived from the intrinsic worth of non-renewable resources belonging to the Australian people. It was consequently essential that Australia should reap substantial financial benefit from exploitation of its minerals. According to Fitzgerald's calculations, the granting of tax concessions combined with the federal government's provision

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110 ibid, p.71.
111 ibid, pp.3, 69, 71, 74.
112 ibid, p.64.
of services to the mining industry (for example through the BMR) resulted in a net financial loss to the Commonwealth in its relations with the industry, amounting to $55 million over the years 1967/8-1972/3.\footnote{ibid, pp. 3, 74, Table 1, p.6.} In comparison, foreign direct shareholders of the principal mining companies earned $1,024 million in profits, net of current taxation, during this period.\footnote{ibid, Table 1, p.6.}

Mining industry and other critics attacked the 'Fitzgerald Report' on a number of grounds, both methodological and conceptual. It was claimed that the sample companies on which it was based were atypical of the industry as a whole, being without exception large, profitable enterprises, and that consequently its assessment of the industry's ability to bear additional taxation was invalid.\footnote{S. Bambrick, \textit{The Changing Relationship: The Australian Government and the Mining Industry}, (Committee for Economic Development of Australia, Melbourne, May 1975), p.29.} The companies chosen by Fitzgerald for detailed analysis were certainly amongst the most profitable in the industry, and he failed to substantiate his claim that mining was Australia's 'most profitable sector'.\footnote{'Fitzgerald Report', p.8.} In fact, over the period 1967/8-1973/4, profitability of Australia's 27 largest mining companies (measured by the average rate of return to funds employed before tax but after deduction of royalties) was only slightly higher than in the manufacturing sector (16.4 as against 12.6 per cent).\footnote{Industries Assistance Commission, \textit{Report, Petroleum and Mining Industries}, Table A3.11, p.A32.}
However, this average figure hid very large disparities between individual concerns: some made losses, while others earned annual returns of up to 50 per cent on funds employed. While any assessment of mining industry taxation should certainly have taken the existence of loss-making or marginal operations into account, it does not necessarily follow that average profitability should determine the rate of tax to be applied to all companies. Government might wish to charge substantial rates on highly profitable operations while leaving others free from tax or subject to lower taxes, especially since a proportion of above-average profits might derive from the relative richness or accessibility of the deposits involved, indicating the existence of economic rents.

A second criticism related to the time period chosen for the study. It was pointed out that taxation patterns in the mining industry over the period 1967/8-1972/3 were affected by high capital expenditures associated with a rate of expansion which was very unlikely to continue. The 'Fitzgerald Report' it was claimed, misrepresented the real impact of the Division 10 allowances by failing to adopt a longer-term perspective.

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118 ibid, p.8.

119 This was principally because the rate at which new discoveries were made was likely to decline as the more accessible deposits were found, and because export markets in the industrialised countries were unlikely to maintain the growth rates which characterised the 1960s.

While it was true that the six year period examined by Fitzgerald was unlikely to be typical, this criticism was not entirely justified, since he was able to demonstrate that a company investing only enough capital to maintain production or expand at a modest rate could substantially reduce its tax liability over an extended period of time. Liability to taxation was of course only being postponed, but where a company was in possession of extensive ore reserves, the postponement might be counted in decades rather than years. Since government would presumably apply a discount rate to future tax receipts, the present value of the sums involved might in many cases be minimal.

The 'Fitzgerald Report's claim that Category A allowances (those not available to non-mining companies) represented a concession to the mining industry also came under attack. The industry argued that these allowances related to essential capital assets which were either not used by non-mining companies (for example shafts, tunnels), or which would have no residual value in the remote regions where mining usually took place but would retain or even increase their value in urban areas where most non-mining companies operated. Consequently, it was claimed, the only concession offered by Division 10 derived from the fact that mining companies could write off assets more quickly than could other concerns.

Mining industry spokesmen recognised the value of this


122 Australian Mining Industry Council, Mining Taxation and Australian Welfare, pp.6-7.
concession, but argued that the industry operated under unique disabilities and that some recompense was necessary if it was not to be disadvantaged relative to other sectors, particularly since the latter received assistance through mechanisms which conferred little benefit on mining, for example the tariff (manufacturing industry) and direct and indirect price subsidies (rural industry). Among these perceived disabilities were the necessity to undertake expensive exploration programmes, liability to royalty payments, the need to provide infrastructure usually supplied by public authorities, and a high level of dependence on export markets characterised by severe price fluctuations. In addition, the higher cost structure imposed by remoteness meant that operations had to be on a massive scale to be viable, facing the industry with special problems in raising huge blocks of development capital. This in itself, it was contended, necessitated application of accelerated depreciation allowances, since loan funds would be difficult to obtain without the assurance of large early cash flow.

Some of these arguments were certainly valid; the mining industry did display distinctive features, and it was appropriate that these should be recognised in income tax legislation.

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123 ibid, p.6.

124 The industry denied that its expenditures on exploration could be equated with those of manufacturing concerns on research and development, because of the much greater urgency of exploration and because of its much higher cost in relation to industry turnover. Australian Mining Industry Council, Mining Taxation: A Review, (Canberra, June 1974), p.18.

125 ibid, pp.17-22.
However, while the 'Fitzgerald Report' may have exaggerated the extent of the concessions available to the industry, this did not preclude the possibility that unnecessarily generous concessions were being offered by government in its attempts to encourage mineral development.

The 'Fitzgerald Report' was also criticised for its claim that the level of foreign ownership was higher in mining than in any other industry. This was an important point. Low rates of taxation in an Australian-owned industry might not be cause for concern, since the incomes involved might be taxed at some other point or reinvested in productive activity elsewhere in the economy. As mining spokesmen pointed out, foreign ownership was in fact higher in a number of other major industries. However, while the accuracy of Fitzgerald's information left something to be desired, the general trend of his argument was valid. As he demonstrated, 56 per cent of profits generated by Australia's major mining concerns over the period 1967/8-1972/3, or $1,024 million, was payable to direct foreign investors; if portfolio investment and shares held by nominee companies were taken into account, the figure would be significantly higher. Clearly it would be disturbing from Australia's point of view if this flow of profits was being undertaxed.

Another criticism of the 'Fitzgerald Report' was that it adopted too narrow a perspective in assessing the mining

126 'Fitzgerald Report', p.3.
127 Australian Mining Industry Council, Mining Taxation and Australian Welfare, p.11.
128 'Fitzgerald Report', pp.4-5.
industry's contribution to Australian welfare in that it ignored, for example, the industry's role in providing export receipts, employment, and infrastructure, and in furthering decentralisation and industrialisation (the latter via mineral processing and fabrication).\textsuperscript{129} It was also claimed that the narrowness of his approach led Fitzgerald to misrepresent the nature of the industry's financial relationship with government, to ignore certain items on the positive side, for example additional employee taxation resulting from higher wage payments to mineworkers, and savings on community infrastructure which public authorities would otherwise have had to provide.\textsuperscript{130}

The 'Fitzgerald Report' did not in fact ignore the mining industry's direct economic impact, but rather took the view that its significance had been exaggerated. It claimed, for example, that mineral development in remote areas such as the Pilbarra had failed to bring about significant decentralisation, and that at least certain types of mineral processing (for example toll refining of bauxite at Gladstone) had very little positive economic impact on Australia. In general, Fitzgerald espoused the view that

\begin{quote}
  if Australia is to gain much short-term benefit from foreign exploitation of her mineral wealth, it will have to be mainly through the taxes and royalties imposed on overseas-owned mining companies.\textsuperscript{131}
\end{quote}

\textsuperscript{129} Australian Mining Industry Council, \textit{Mining Taxation and Australian Welfare}, pp.3-4, 12.

\textsuperscript{130} ibid, pp.7-10.

\textsuperscript{131} 'Fitzgerald Report', pp.45-6, 75, 83.
The significance of the mining industry's direct economic impact is examined in the next Chapter, but at this stage one general comment can be made. Regardless of how significant that impact was, it was still pertinent to ask whether tax revenue was being sacrificed unnecessarily. In other words, would the mineral developments of the 1950s and 1960s have proceeded without the tax incentives, or with less generous incentives?

Clearly this question cannot be answered conclusively. Some relevant evidence was collected by the Industries Assistance Commission Inquiry into the mining and petroleum industries, held over the period 1974-6. The Inquiry heard evidence from most major mining companies operating in Australia. No company could provide evidence of any project that would not have been undertaken had the concessions not applied, and the Commission concluded that the major part of the development which occurred over the period 1967/8-1972/3 would have taken place in the absence of the concessions...(though) the rate at which many of these projects were developed would have been slower.132

However, this conclusion raises two important issues, the first of which involves the perspective of policy-makers in the 1950s and 1960s. Policy-makers were apparently not fully aware of the various factors which favoured Australia in seeking development of her mineral resources (see pp. 281-2 above), and felt that tax concessions were essential if

development was to proceed. There seemed little to lose and much to gain in terms of direct economic impacts, which were expected to be substantial, by offering the concessions. Even had there been a greater awareness of Australia's inherent advantages, Australian governments anxious to expand export receipts quickly would probably have been prepared to sacrifice revenue in order to ensure a more rapid pace of development, though they could hardly have foreseen what the extent of the sacrifice would be. In the event, the tax liability of mining companies was reduced by an estimated $1,100 million over the period 1967/8-1972/3 alone; figures are not available for earlier years, but a number of major projects became operational prior to 1967/8, and the total loss was probably well in excess of this sum.

Secondly, it must be remembered that four quite distinct types of provisions accounted for the reduction in tax liability, and that their significance varied. Exemptions of mining income, which had in fact been introduced during earlier phases of mining activity in response to particular situations, accounted for $117 million. It is unlikely that these

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134 H.G. Raggatt, for instance, believed that one of the most important effects of the concessions was that they prevented delays in the development of Australia's minerals. H.G. Raggatt, op.cit., p.52.


136 This and figures relating to other concessions were derived from Industries Assistance Commission, *Report, Petroleum and Mining Industries*, Table 2, p.54.
exemptions exercised a significant influence in the post war period; they did not even apply to two of the principal minerals developed at this stage (iron ore and coal), and generally benefitted long-established concerns such as Mount Isa Mines. Allowance of share payments against tax liability cost some $240 million. It is improbable that large developments would have been delayed in the absence of this concession, since only a fraction of the amounts involved were actually spent on exploration or development and since most of the major companies obtained the bulk of their funds overseas.

Category A allowances accounted for $300 million. Absence of these provisions would have placed a substantial additional burden on mining companies, and might well have led to a slower pace of development and possibly to abandonment of some marginal projects. The remaining $445 million represented deferred tax liabilities resulting from instant asset write-off, with government's loss represented by the (considerable) notional interest on this amount. It is particularly difficult to reach definite conclusions regarding this concession. Somewhat less generous provisions would have reduced the loss to government and might not have retarded development, but lack of any concession would probably have done so.

We may therefore conclude that the Australian government need not have sacrificed revenue to the extent it did to achieve its objectives, and that the cost of its generosity was somewhere in excess of $350 million over the period

137 The provisions did exempt 20 per cent of income gained from mining of bauxite and mineral sands, but it seems certain that major developments in both sectors would have proceeded in their absence.

The Labor government accepted the 'Fitzgerald Report' conclusions; it withdrew the exemptions of mining income from taxation (with the exception of gold mining), and terminated the accelerated depreciation provisions. Amendments to the Income Tax Assessment Act introduced in 1974 provided that, in general, capital expenditure would be deducted on a declining balance basis over the shorter of mine life and twenty-five years. Exceptions related to expenditures on exploration, which could be deducted immediately, on mining and treatment plant, deductible over the estimated economic life of such plant, and on facilities for transporting minerals, deductible over twenty years (previously ten).

Conclusion

Labor party policies were based on the assumption that foreign ownership in the mining industry was creating certain costs for Australia, and in particular that foreign companies were engaging in pricing and marketing practices inimical to Australia's interests, were failing to develop viable opportunities for mineral processing in Australia, and were responsible for substantial outflows of income from Australia. In addition, it was felt that Australia's perceived lack of control over the operations of foreign concerns denied it the opportunity to fully utilise the potential diplomatic power conferred on it by its possession of valuable mineral resources.

Further, it was assumed that Australia could not re-establish control or avoid the costs of foreign investment unless direct Australian participation in the mining industry, public and
private, was very much increased. The Labor Party believed that this could be achieved without significant decline in the scale or efficiency of mining operations or in overall levels of capital investment, for the following reasons:
a) Additional domestic capital could be mobilised by the AIDC and the National Investment Fund. b) The AIDC and the PMA could strengthen Australian mining companies which could then apply that capital efficiently. c) The PMA, the AAEC and the National Interest Fund of the AIDC could implement a major programme of direct government participation in mineral development.
d) Substantial amounts of foreign capital would flow into mining projects through the AIDC. e) Technical and marketing expertise could be obtained from abroad without direct foreign investment. f) Foreign mining concerns would be willing to explore for minerals in Australia in the knowledge that ownership of mining projects would later be shared with Australians.

The last three points rested substantially on another assumption, that Australia's possession of substantial mineral resources in a world facing resource scarcities would place her in a strong bargaining position vis-a-vis foreign investors, allowing it to obtain their resources without sacrificing ownership and control of its minerals. 138

Labor also believed that mineral development would continue

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138 See, for example, 'International Affairs: Ministerial Statement by the Prime Minister and Minister for Foreign Affairs, Mr Whitlam', CPD, Vol.84, 24 May 1973, pp.2643-52.
under substantially less generous taxation provisions. Imposition of more stringent provisions was essential if profit outflows were to be curtailed in the short term, and since the direct economic impact of mining projects was unlikely to be substantial.\textsuperscript{139}

In general, Liberal/Country Party governments operated on diametrically opposed assumptions throughout the post-war period. There was little to fear from foreign mining investment and any dangers could be dealt with through the normal exercise of government powers. In any case Australia did not possess the resources necessary to develop her minerals, and taxation incentives were required if foreign investors were to be persuaded to do so. The direct economic benefits created by mineral development would be sufficient recompense to Australia for permitting exploitation of her minerals.

An assessment of these contradictory viewpoints requires an empirical analysis of the impact of foreign-financed mining projects, and this is attempted in the next Chapter.

\textsuperscript{139} There was of course an unresolved contradiction between the Labor Party's pessimism as regards the direct impact of mining projects and its enthusiasm for mineral processing.
It is particularly difficult to examine the impact of foreign-financed mineral development in the Australian case as official and other statistics usually cover all projects, regardless of ownership. This must be borne in mind when considering the impact of mining on, for example, employment, government revenue and export earnings. However, in considering the economic and other issues raised by mineral development, the discussion can usually be made specific to foreign mining investment.

Generation of government revenue

Table 15 gives details of royalties and income taxes paid by the mining industry over the period 1965-1977. The absolute level of both rose substantially during these years, with much of the increase coming after 1974, reflecting rising royalty rates, changes to income tax legislation introduced in 1973/4, and the non-availability of depreciation allowances claimed at an accelerated rate in earlier years. The Commonwealth also raises revenue through the coal export levy, introduced by the Labor government and now being phased out ($90 million in 1977), and through withholding taxes on interest and dividend payments made abroad ($10 million in 1977).^  

### Table 15
Royalties and Income Taxes Paid by the Australian Mining Industry,
Selected Years 1965-1971 and 1972-1977

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Royalties *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- To States</td>
<td>22,994</td>
<td>23,689</td>
<td>24,960</td>
<td>60,528</td>
<td>59,109</td>
<td>62,082</td>
<td>78,062</td>
<td>141,714</td>
<td>146,326</td>
<td>186,734</td>
</tr>
<tr>
<td>- To Commonwealth</td>
<td></td>
<td>10</td>
<td>11</td>
<td>5,024</td>
<td>7,567</td>
<td>7,895</td>
<td>10,769</td>
<td>12,155</td>
<td>13,440</td>
<td>13,805</td>
</tr>
<tr>
<td>Total</td>
<td>22,994</td>
<td>23,699</td>
<td>24,971</td>
<td>65,552</td>
<td>66,676</td>
<td>69,977</td>
<td>88,831</td>
<td>153,869</td>
<td>159,766</td>
<td>200,539</td>
</tr>
</tbody>
</table>

*From 1970 onwards, these figures include royalties received under the Petroleum (Submerged Lands) Act 1967-68.

Direct taxation from mining has accounted for a small but increasing proportion of the Commonwealth government's total tax revenue, 0.5 per cent in 1966, 2.3 per cent in 1977. The contribution of royalty payments to total state taxation has been similarly modest; in 1977, only in Western Australia did they account for more than 10 per cent of total taxation.

Perhaps the most persistently expressed fear of Labor Party spokesmen was that foreign mining companies would undervalue mineral exports and so reduce profits generated within Australia, whether by transfer pricing or by failing to exercise their full bargaining powers in their dealings with customers. Opportunities for transfer pricing have certainly existed, as some mining operations, particularly in the aluminium industry, were conducted by subsidiaries of fully-integrated multinational mining corporations. In fact on a number of occasions the Taxation Commissioner has imputed prices to mineral exports for tax assessment purposes different to those actually received by the Australian subsidiary. The Commissioner's power to act in this way might be thought to indicate that there is little danger of revenue loss, but in practice he has encountered serious difficulties in establishing

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2 Table 15 and Australian Bureau of Statistics (ABS), *Public Authority Finance, Federal Authorities*, various issues.

3 It was 7.0 per cent in 1966, 5 per cent in 1977. ABS, *Public Authority Finance, State and Local Authorities*, various issues.

4 ibid.

'arms length' prices for mineral commodities which are not freely traded on a large scale (for instance bauxite, alumina). 6

Foreign mining companies, especially iron ore and coal exporters, have apparently sometimes suffered from failing to adopt a more unified approach in dealing with customers, but it is difficult to differentiate in specific cases between the effect of disunity and that of prevailing market conditions for the commodity involved. This difficulty is illustrated by price negotiations between iron ore producers and the Japanese steel industry in 1978. The Japanese adopted a tactic of concentrating their negotiating effort on one producer. They persuaded the Mount Newman Mining Company to accept a significant drop in prices on the contracts being re-negotiated by offering to re-negotiate an older contract, which was not yet due for renewal, in its favour; this effectively gave the Company a $14 million 'kickback' which balanced the lost revenue from the newer contracts. According to press reports, Mount Newman's acceptance of the lower prices undermined the bargaining position of the other producers, forcing them to follow suit and accept those prices, with none of the benefits afforded Mount Newman. 7 However, the willingness of the other companies to accept a drop in prices reflected the current depressed state of international iron ore markets and the consequent absence of alternative market outlets. Thus Mount Newman's 'defection' was only partly responsible for the failure to obtain higher prices.

6 Commonwealth Treasury, Overseas Investment in Australia, p.53.
7 Mining Journal, 8 September 1978, p.177.
Generation of employment and wage payments

The mining industry is highly capital-intensive, and consequently the numbers employed are small in relation to output. In 1973, capital intensity in mining (measured as the book value of fixed tangible assets per person employed) was five times higher than the average for the manufacturing sector.\(^8\) Table 16 gives details of direct mining employment (as defined by the Australian Bureau of Statistics) in selected years over the period 1966-1978; in 1978, such employment occupied 1.4 per cent of the civilian workforce in Australia.\(^9\) However, this figure underestimates the impact of mineral development on employment, for three reasons.

Table 16

Direct Employment in the Australian Mining Industry,*

<table>
<thead>
<tr>
<th>Selected Years, 1966-1978</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>48,589</td>
</tr>
<tr>
<td>1969</td>
<td>55,225</td>
</tr>
<tr>
<td>1972</td>
<td>63,179</td>
</tr>
<tr>
<td>1975</td>
<td>69,122</td>
</tr>
<tr>
<td>1978</td>
<td>66,074</td>
</tr>
</tbody>
</table>

Source: Bureau of Statistics, Mining Establishments, Details of Operations, various issues.

Notes: *Includes petroleum and natural gas, excludes employment in smelting and refining.

First it represents a narrow interpretation of mining employment, referring only to those engaged in extracting minerals.

\(^8\) Industries Assistance Commission, Annual Report, 1973/4, Table 4.1.1.

\(^9\) Total civilian employment in 1978 averaged 4.7 million.
and excludes employment in mineral processing. Second, Australia produces a high proportion of the goods and services consumed by the mining industry, and consequently indirect employment is substantial. According to the Australian Mining Industry Council the multiplier effect is about 2.75, indicating that between 150,000 and 200,000 Australians, or around 3.5 per cent of the workforce, depend directly or to a large extent on mining (as defined by the Bureau of Statistics) for their jobs. Third, where mining occurs in remote areas almost the entire workforce usually depends on mining and related activity for employment. For example, the Department of Employment and Industrial Relations estimated in November 1976 that 87 per cent of the workforce in the Queenstown area of Tasmania were dependent on the Mount Lyell copper mine through direct wages, contracts, purchases, or expenditures of mineworkers' wages.

It is difficult to assess the economic significance of mining employment since general economic conditions in Australia have changed substantially over the period under review, and since significant variations in such conditions occur on a regional basis. In the 1960s Australia experienced virtual full employment and the mining industry cannot therefore be regarded as having generated employment from a national point of view, since the labour it absorbed could have been utilised elsewhere. In this situation the principal impact of mining employment would probably have been on the incomes of the existing workforce, since the additional demand for labour


could be expected to have pushed up wages. Two other aspects of this question should be mentioned. First, by 1970 gross product per person employed in mining was higher than in any other sector and twice as high as in manufacturing, indicating that labour employed in mining was utilised more productively than it would have been in most alternative uses. Second, wages in the mining industry have been substantially higher than the national average, by between 18 and 38 per cent over the period 1966-78, allowing the individuals involved to earn more and adding to the multiplier effects created by expenditure of their incomes.

Since the early 1970s unemployment in Australia has increased steadily, and currently stands at between 5 and 6 per cent of the workforce. Mining activity could consequently be seen as generating employment from a national perspective, but this would only hold true if labour was geographically mobile. This is apparently not entirely the case, and labour shortages still exist in certain remote areas in which mining occurs. Thus the economic significance of mining employment cannot be assessed in general terms; it might be quite different, for example, in the case of the Woodlawn lead/zinc mine, which operates near population centres in New South Wales, than for the Agnew nickel project, situated in a remote part of Western Australia.


13 The unemployment rate grew from 4.1 per cent in May 1976 to 5.1 per cent in May 1977 to 6.2 per cent in May 1978. ABS, Employment and Unemployment, various issues.

14 Derived from ABS, Average Weekly Earnings, various issues, and Mining Establishments: Details of Operations, various issues.
Mine closures in regions dependent on mining employment can cause severe economic problems, particularly if mining has been carried on for a substantial period of time. Where this is the case, large investments have usually been made in public and private facilities and businesses, and these assets are often immobile, at least in the short term. Where the communities involved do not serve other economic functions (for example as centres for rural industry), cessation of mining may result in wastage of public and private capital and to severe social and economic location dislocation.

A classic example of this situation is offered by the Tasmanian community of Queenstown which, as mentioned above, is almost entirely dependent on copper mining. Mining operations have been carried on since the late 1890s, and over the decades substantial public investments have been made in providing rail, road and air transport and educational and medical facilities. In addition, a high proportion of local residents own their own homes, while substantial private investments have been made in businesses providing consumer services to the mine and the townspeople.

By 1975 financial difficulties, resulting from poor copper prices, falling ore grades and more difficult mining conditions threatened the Mount Lyell copper mine with closure. Very little

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15 At June 1976, 1,005 of the 1,381 dwellings in Queenstown, or about 70 per cent, were under private ownership or purchase.

16 For details of the businesses involved, see Industries Assistance Commission, Inquiry Regarding Copper Ores and Concentrates: Official Transcript of Proceedings, Queenstown, 1 and 5 September 1977, Sydney, 7 December 1977.
alternative employment was available, and townspeople faced the prospect of leaving an area in which many of their families had lived for three generations and of abandoning investments in houses and businesses. There would also have been a wastage of public capital as sufficient demand would not have been available to maintain public facilities.

Assistance provided by the state and federal governments averted closure, but this can only be a stop gap measure. As of June 1977, ore reserve estimates indicated that mining operations could be supported only until 1986, at which time Queenstown's existence as a viable community will again be in jeopardy.

Creation of additional economic activity through linkage development

*Backward linkages:* Australia has supplied a substantial and growing proportion of the goods and services utilised by the mining industry. As in the Irish case, an initial lag in linkage development apparently occurred, and a significant proportion of the capital expenditure associated with mineral developments in the late 1950s and early 1960s was expended abroad, particularly on transport, electrical, and mining equipment. However domestic manufacturing capacity was already well developed and as Australian firms became aware of the mining industry's needs they were well placed to take

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17 ibid., Canberra, 1 September 1977, p. 82.

18 For example in implementing its expansion programme over the period 1958-68 Mount Isa Mines purchased electricity generating, ventilation, milling, and transport equipment in the US, the UK, and West Germany.
advantage of the available opportunities, especially since the large size of Australia's mining industry allowed them significant economies of scale. For example, in the 1960s dump trucks used in iron ore and bauxite mining were imported, but by the mid 1970s replacement vehicles were being produced in Australia. It is also apparent that in later years at least some foreign mining companies adopted a deliberate policy of favouring domestic producers.\(^\text{19}\)

By the early 1970s, some 85 per cent of capital investment by mining companies was being expended in Australia,\(^\text{20}\) though as wages and salaries accounted for some of this amount the proportion of goods and services purchased locally was certainly lower. Specialised transport and mining equipment was (and is) still being imported,\(^\text{21}\) and this will apparently continue because of economies of scale in the producing industries, though some commentators believe that Australia could establish export markets and thus render local production feasible.\(^\text{22}\) Currently, mining firms obtain an estimated 88 per cent of their operational supplies and services within Australia.\(^\text{23}\)

\(^{19}\) See the submissions of MIM Holdings Limited and Queensland Alumina Limited to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 20 July 1972, p.659, 7 September 1972, p.1306.

\(^{20}\) This figure was quoted by CRA in its submission to the Senate Select Committee on Foreign Ownership and Control, and accords with other published estimates.

\(^{21}\) For instance draglines for use in open pit coal mining are still imported from the US.

\(^{22}\) See the comments by R.L. Whitmore, Queensland Government Mining Journal, October 1979, p.514.

While a high proportion of the inputs used in mining are supplied locally, total linkage from the industry is comparatively weak. Over the period 1972/3 - 1975/6, for example, each dollar of output required expenditure of only 30 cents on materials, electricity, fuels, payments to mining contractors, repair and maintenance and freight charges; the equivalent figure for the manufacturing sector was 64 cents.

Forward linkages: The degree to which mineral processing occurs in Australia varies from commodity to commodity. In nearly all cases, production for the domestic market is fully integrated with smelting, refining, and manufacturing of semi-fabricated and fabricated goods taking place locally; however a high proportion of Australia's mineral exports are in unprocessed form, particularly exports of iron ore, mineral sands and, to a lesser extent, bauxite. The attention of policymakers and of the public has focused on the issue of whether Australia's minerals can or should be subject to a greater degree of processing prior to export, and it is on this question that attention is concentrated here.

The desirability of increasing the proportion of processed metals in Australia's mineral exports has caused less controversy than almost any other aspect of mineral policy, at least until

24 Derived from ABS, Mining Establishments, Details of Operations, 1975/6, Tables 4 and 6.

25 Derived from ABS, Manufacturing Establishments, Details of Operations by Industry Class, various issues, Tables 5 and 7.

26 For a comparison of the degree to which processing of various minerals occurs in Australia, see BMR, Australian Mineral Industry Review 1977, Table 12, p.13, 'Production and Export Processing Indexes'.

27 ibid.
very recently. Federal and state governments of all political hues, official inquiries into Australia's economic circumstances, trade union spokesmen and many academic and other commentators have lauded the likely benefits of following this course of action.\(^{28}\) State governments have attempted to encourage processing by making the granting of mineral rights conditional on the lessee's willingness to construct smelters or refineries within their states, and by offering financial incentives. For example, in 1957 the Queensland government granted a lease to Comalco Limited to mine bauxite deposits at Weipa on condition that the Company would construct a plant in Queensland to convert its output to alumina,\(^{29}\) while Western Australian iron ore agreements negotiated during the 1960s provided for the termination of mining rights if processing was not undertaken within a specified period of time.\(^{30}\) The Queensland and federal governments offered financial incentives by applying a lower royalty rate to bauxite which was to be processed locally,\(^{31}\) while the Western Australian government encouraged the Western Mining Corporation Limited to smelt and refine its output of nickel ore in Western Australia by providing for a lower royalty at the mining stage if processing was undertaken, by offering to


ship the Company's nickel products at concessional rates on the State railway system, and by undertaking to provide some of the infrastructure for the project.\footnote{32}

Enthusiasm for mineral processing reflects a belief that it greatly increases value added and so government and export revenue, generates additional employment, creates technical 'spin-offs', generally increases the level of industrialisation, and creates opportunities for decentralisation of economic activity and population.\footnote{33} This belief results in part from the fact that processing activities have in the past led to development or expansion of other economic activities. For example, smelting of lead and zinc concentrates mined at Broken Hill resulted in the production of sulphuric acid at Broken Hill itself and in Tasmania, with the acid in turn being used in the production of fertilisers at Newcastle. By-product copper, silver, gold, cadmium and antimony was also produced; some of these metals were used in other industrial processes, others were exported. Another by-product was zinc dust, which was utilised in gold metallurgy and paint production.\footnote{34} Each of these activities created demands for goods and services, and there can be little doubt that, overall, significant additional employment, incomes,

\footnote{32} Western Australia, Nickel Refinery (Western Mining Corporation Limited) Act, 1968, 17 Eliz. 2, No.24, Clause 3 (1) and (2), Clause 5 (a) and (b), Clause 9 (1).


\footnote{34} H.G. Raggart, op.cit. pp.171-7.
and government revenues were generated as a result of processing activity, a fact of particular significance to state governments in pursuit of 'development'.

The second principal basis on which processing has been sought is that it would substantially enhance the value of Australia's mineral exports. A comparison frequently quoted is that one dollar's worth of bauxite can be converted into $100 dollars' worth of aluminium. Though an extreme case, this example does illustrate the potential impact of large-scale processing on Australia's export income, and comparisons of this kind have played a major part in fostering the belief that Australia has become a 'quarry' for consuming countries and is consequently deprived of much of the value of her minerals.

A number of important points should be made in relation to these perceived benefits. First, resources utilised in processing have alternative uses, in some of which they might exercise an even greater impact. For example, creation of employment is currently a major concern of state and federal governments. Mineral processing is extremely capital intensive; in 1973, capital intensity in smelting and refining of bauxite, alumina, copper and nickel was eleven times that in the

35 See, for example, A. Fitzgibbons, *The Economic Contribution of the Mineral Sector in Australia*, Resource Policy Series No. 4, Economics Department, Australian National University, (Canberra, 1972), p.2; and 'Is the aluminium worth the energy?', *National Times*, 16 December 1978.

36 So, for example, one dollars worth of iron ore could be converted into about seven dollars worth of steel billets (at 1973 prices). J.J. Craig, 'The Outlook for Iron Ore Processing in the Pilbara', in S. Bambrick, op.cit., p.2.

manufacturing sector as a whole. Recent investments in processing and current investment proposals have been concentrated in this group (especially bauxite/alumina and nickel), and it should be noted that capital intensity in treatment of these commodities is five times that in processing of the 'older' metals (lead, zinc, and silver). It is therefore clear that, in seeking to maximise employment, resources might be more usefully employed elsewhere.

It could of course be argued that the capital employed in processing is primarily supplied by specialised mining corporations who would be unwilling to invest it in alternative uses, but as against this two points can be made. First, where state governments sacrifice royalties at the mining stage and/or supply infrastructure or services at concessional rates, substantial commitments of public capital can be involved. Second, significant amounts of capital have been raised by processing concerns from general banking and finance sources in Australia, and this capital presumably would be available for alternative uses. For example in 1971 the Queensland alumina producer, Queensland Alumina Limited, had invested $35.5 million provided by Australian institutional lenders.

Mineral processing absorbs other resources, of course, particularly energy resources, usually provided in Australia

39 Ibid.
40 Queensland Alumina Limited, Submission to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 7 September 1972, p.1307.
by state authorities in the form of electricity. There is a
danger that their desire to encourage mineral processing may
lead state governments to undervalue fuel minerals used as
feedstock in generating electricity, an issue raised by current
plans to expand Australia's alumina smelting capacity by some
600,000 tonnes. 41

Australia's competitiveness as an energy supplier has
obviously been a major influence in attracting investment in
this area, 42 but in their attempts to capture projects for their
states, state governments may reduce energy costs below the
level required to maintain Australia's competitive position.
To date, they have apparently kept electricity prices at levels
which have not been increased to take account of inflation or
of the general escalation in energy costs. 43 Particularly
if fixed price contracts are agreed for electricity or fuels
and if world energy costs continue to rise, the states may be
deprived of a significant part of the value of their energy
resources, with the predominantly foreign-owned smelting companies
reaping the benefit. 45 If this occurs, it will not of course be
the result of any innate characteristic of the mineral processing
industry, but rather of essentially political factors, and

41 Mining Journal, 27 April 1979, p.319; 24 August, p.139.
42 'Is aluminium worth the energy?', National Times, 16 December
1978.
43 ibid.
44 Currently, all bauxite/alumina processing facilities have
in excess of 50 per cent foreign ownership, as apparently will
most of the projects now planned or under consideration.
45 This assumes that the cost of energy to Australian producers
would not significantly affect international prices for alumina/
aluminium.
especially of Australia's federal system of government.

Mineral processing is one of the most energy-intensive industrial activities carried on in Australia. Table 17 shows the value of fuels and electricity consumed per dollar of output by the principal forms of mineral processing and by the manufacturing sector as a whole, and indicates that usage of fuels and electricity in processing bauxite/alumina and iron ore is seven times that in manufacturing as a whole; it should also be noted that it is four times greater per dollar of output than in processing of the 'older' metals, copper, lead and zinc. Consequently if the energy charges imposed by the states do not fully reflect the value of feedstock minerals, the loss to government will be on a very substantial scale.

Thus the resources absorbed by mineral processing may have alternative and possibly more efficient uses. It should also be noted that in their alternative uses these resources might still make a significant contribution to Australia's balance of payments, by allowing production of goods for export or by permitting import substitution. On the other hand, mineral processing can certainly bring important economic benefits, though the differences which have been noted between processing of 'new' and 'old' minerals indicate that Australia's past experience in this regard may not be an accurate guide to the future. In sum, proposals for mineral processing require careful assessment in the light of available alternatives,

46 In fact processing of copper, lead and zinc is probably less energy-intensive than the figures in Table 17 suggest, as they are grouped with nickel, processing of which is highly energy-intensive.
### Table 17

**Output, and Value of Fuels and Electricity Consumed, Mineral Processing and Total Manufacturing, Australia, 1975-1976**

<table>
<thead>
<tr>
<th>Output Value of Fuels and Electricity Consumed+</th>
<th>Expenditure on Fuels and Electricity per Unit of Output (Cents)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$000's</strong></td>
<td><strong>Cents</strong></td>
</tr>
<tr>
<td>Smelting and Refining of Copper, Lead, Zinc and Nickel++</td>
<td>940,794</td>
</tr>
<tr>
<td>Iron Ore Pelletising and Metallising</td>
<td>186,267</td>
</tr>
<tr>
<td>Alumina and Aluminium</td>
<td>594,146</td>
</tr>
<tr>
<td><strong>Total Manufacturing</strong></td>
<td><strong>39,474,405</strong></td>
</tr>
</tbody>
</table>


**Notes:**
- + Includes electricity, coal, petroleum and gas.
- ++ The statistician does not publish separate figures for lead, zinc or nickel.
especially if they are going to be subsidised by the provision of public resources at less than their full value. The current attitudes of state and federal governments show little evidence that this requirement is being fulfilled.

Whatever the justification for investing in mineral processing on grounds of economic efficiency, the fact remains that Australian governments would prefer a higher proportion of mineral exports to be in processed form, and the question arises as to whether the foreign nature of mining investment has prevented this from happening.

It is evident that a number of 'objective' economic factors have militated against development of forward linkages in Australia. First, some mineral developments were financed by loans raised on the security of long term contracts with consumers of ores and concentrates; such contracts could not have been secured for finished metal, and it is doubtful if the loans could have been obtained without them. Second, Australia, like other mineral exporters, faces substantial tariff barriers when attempting to sell finished metal in the industrialised countries. A number of foreign-owned Australian producers have been forced to purchase or build processing facilities abroad to overcome this problem. Third, substantial infrastructural costs can be incurred if processing is to occur at the mine site, costs which competitors in the industrialised countries would not have

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47 CRA and its associates, for example, have acquired zinc smelters in Britain and Holland, and constructed an alumina refinery in Sardinia.
to meet. On the other hand, substantial internal transport costs may be incurred if processing facilities are located near urban areas; for instance, the cost of moving bauxite from Weipa to Gladstone is almost equivalent to the cost from Weipa to Europe and Japan. Fourth, market outlets for certain metals, for example aluminium, are cartelised by the existing producers, creating barriers to entry for new producers.

Nevertheless, it has certainly been the case that some foreign mining companies have invested in Australia specifically with the intention of securing sources of ores and concentrates for existing processing facilities abroad. This was the case, for example, with Alsuisse's development of the Gove bauxite deposits, and other investments in the aluminium industry have been similarly motivated. In these instances, foreign companies would clearly be reluctant to undertake processing in Australia if the outcome was to render existing plant redundant. However, horizontal diversification rather than the search for captive sources of supply has apparently motivated most investments outside the aluminium industry and, given that foreign investors have attached little political risk to investment in Australia, it is consequently likely that

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48 For example, it was estimated in 1971 that it would cost about $1 billion to develop infrastructure for an integrated iron and steel industry in the Pilbara. C.W. Court, 'The Role of Government', in D. Douglas, (ed.), *Minerals Investment and Australian Development*, Department of Adult Education, University of Sydney, 1971, p.34.


51 ibid, p.12-14.
economic factors of the type discussed above governed most
decisions on whether or not to undertake processing locally.

Impact on the balance of payments

Mineral exports have made a major and growing contribution
to Australia's export income over recent years. At constant
prices, the value of mineral exports in 1977 was over seven
times that in 1965, while the proportion of export income
accounted for by minerals increased from 12 per cent in 1965
to 42 per cent in 1977. This growth has been supported by
higher sales of nearly all minerals produced in Australia, but
it has been accompanied by a major decline in the relative
significance of the 'older' metals, copper, lead and zinc,
and an increase in that of alumina/aluminium, black coal, iron
ore and nickel. It is of course in exploitation of the
latter that foreign investment has been concentrated over the
last twenty years.

It is impossible to calculate the net balance of payments
effect of foreign-owned mining projects as the available
information is incomplete, and in any case relates to the
mining industry as a whole. Aggregate data indicates that
in 1976/7-1977/8, 77 per cent of foreign currency inflows
(export receipts, equity and loan capital) remained after


53 In 1965, the former accounted for 53 per cent of mineral
exports, the latter for 23 per cent; in 1977, the equivalent
figures were 11 per cent and 70 per cent. Derived from BMR,

54 Growth in mineral production has also influenced the balance
of payments by increasing Australia's self-sufficiency in a
number of minerals, for example alumina/aluminium, asbestos,
tin and nickel.
deduction of dividends, interest and debt repayments payable abroad, and direct imports. This figure omits imports purchased through Australian agents and the import content of domestic purchases. It also overestimates the contribution of foreign-owned companies, as the total flow of dividends abroad should be deducted from their share of export income, and it is evident that the impact of individual foreign-financed projects has been considerably lower than the aggregate figure would suggest. For example, over the period 1961-71 the Queensland bauxite producer, Comalco, received total overseas funds equivalent to $758 million, of which $403 million was paid abroad on direct imports, loan repayments, interest and dividends, indicating a net positive contribution equivalent to 47 per cent of foreign exchange receipts.

Of the identified foreign currency outflows during 1976/7-1977/8, debt repayment accounted for 26 per cent, interest payments for 16 per cent, dividends for 22 per cent, and direct imports for 30 per cent. Government revenue accounted for only 23 per cent of the foreign currency retained in Australia, with wage payments (30 per cent) and purchases of goods and services (47 per cent) accounting for the balance.

55 Australian Mining Industry Council, Minerals Industry Survey 1977 and 1978, Table 6.1, p.53. The survey on which these figures are based did not cover all mineral exporters, but did include nearly all of the major companies involved.


58 Derived from ibid., Table 4.5, p.37, Table 6.1, p.53.
This is in contrast to the situation in Zambia, where the relative significance of the two categories is reversed.  

The growth in mineral exports has exercised a major impact on Australia's balance of payments. It has helped to turn the trade deficits which characterised the early and mid 1960s into surpluses, while the investments which permitted expansion of mining activity were accompanied by substantial capital inflows. Over the period 1969/70-1972/3 both these developments, combined with inflows of non-mining capital, resulted in substantial surpluses on the balance of payments; however, import demand did not expand quickly enough to absorb those surpluses, which were accumulated as foreign reserves. The appropriate policy response would have been to revalue the Australian dollar progressively through 1971, but revaluation was delayed until December 1972, by which time speculative capital inflow had exacerbated the situation and Australia was firmly on the path to external readjustment through rapid inflation. The Labor government responded to the balance of payments problem with successive revaluations of the Australian dollar and stringent controls on capital imports, measures which in turn created other difficulties. Export industries (including mining) faced serious problems in maintaining their competitiveness, while

59 See p. 236 above.


61 These were based on a requirement that a proportion of funds raised abroad be deposited, free of interest, with the Reserve Bank.
companies found it substantially more expensive to raise development capital abroad. It should however be noted that the accumulation of reserves which the Fitzgerald Report interpreted as indicating that Australia possessed sufficient export capacity did not continue after 1973, and since then foreign reserves have been drawn upon to meet rapidly-escalating deficits on invisibles.

Revaluation would have faced the Australian economy with problems of structural readjustment regardless of when it occurred. Thus while the growth of the mining industry has helped to ensure that scarcity of foreign exchange does not impose a constraint on the Australian economy, it has also, in combination with other factors, created other economic problems for Australia.

Provision of scarce capital resources through the investment process

Over the last three decades, foreign investors have played a crucial role in providing the enormous amounts of capital required to finance the discovery and exploitation of Australia's minerals. Comprehensive figures are difficult to obtain, but over the period 1964-1970 alone total investment by foreign mining concerns was well in excess of 

In contrast to the situation in other case study countries, such concerns have mobilized significant amounts of domestic capital in Australia.\(^{64}\)

As mentioned above, Labor politicians generally believed that Australia could have supplied the capital required for mineral development without the assistance of foreign companies, claiming that sufficient domestic resources were available and that what was lacking were appropriate mechanisms through which to mobilise those resources, a viewpoint which exercised a major influence on their whole approach to mineral policy. A number of factors appeared to give that viewpoint credence. First, during the 1950s and 1960s savings generated within Australia were sufficient to finance a very high proportion of fixed capital formation; over the period 1957/8-1970/1, this proportion ranged between 82 and one hundred per cent.\(^{65}\)

Second, a substantial part of Australian savings were in contractual form, for example in life assurance and pension funds, and therefore apparently presented a suitable basis on which to finance medium and long term investments of the kind required for mineral development.\(^{66}\)

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63 Foreign companies surveyed by McKern had invested $3,290 million over this period, and his survey covered only an estimated 84 per cent of total funds invested. R.B. McKern, op.cit., Table 8.2, p.162.
64 See below, p. 366.
65 Commonwealth Treasury, Overseas Investment in Australia, Table 26, p.39.
Third, a high proportion of the capital supplied by foreign companies was obtained either from Australian investors or from foreign banks. It has been estimated that, over the period 1964-70, 72 per cent of total investment by foreign mining concerns was financed from these sources, and the question arose as to whether this capital could not be mobilised by Australian companies.

Though the absolute amount of savings generated in Australia was almost sufficient to finance total capital formation, this did not necessarily mean that sufficient capital of the type required to finance mineral development was available. In fact a number of powerful influences operated to reduce the availability of domestic capital to mining concerns. First, government regulations restricted the ability of banks and other financial institutions to allocate their funds freely. For example, life assurance companies, pension funds and savings banks were effectively compelled to invest part of their capital in government securities or in specific activities (for instance house building). Trading banks had to lodge a portion of their assets with the Reserve Bank, maintain a further portion in liquid funds, and their deposit term was restricted; these constraints were eased somewhat in 1967 when the trading banks established the Australian Resources Development Bank (ARDB), which was excluded from the general provisions, but

67 Derived from R.B. McKern, op.cit., Table 8.2, p.162.
the ARDB's operations were on a relatively modest scale. 69

Second, institutional investors displayed a strong reluctance to undertake what were perceived as high risk investments in the mining sector, particularly in exploration. So, for example, Comalco unsuccessfully attempted to raise funds for expansion of its Weipa bauxite operations from a number of major lending institutions in 1964. 70 This hostility towards mining investment lessened as the mineral industry became more established, and during the 1970s a number of institutional investors committed large amounts of capital to individual projects; 71 however, investment in exploration continued to be shunned.

These two factors meant that, especially during the 1950s and 1960s, private investors would have had to provide a substantial proportion of mining capital, mainly through the stock exchanges. However, funds from this source were limited; for example, over the period 1967-70, total new capital raisings by all firms on Australian stock exchanges were only $2.5 billion, 72 a significant proportion of which would have been subscribed by institutional investors. In addition, private investors also attached significant disadvantages

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69 Over the period 1967-71, the ARDB made total investments of $400 million. ARDB, Submission to the Select Committee on Foreign Ownership and Control, Official Hansard Report, 29 June 1972, p.180.

70 Comalco Limited, Submission to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 20 July 1972, p.775.

71 For instance, Australian Mutual Provident (AMP) invested $100 million in the coal mining operations of Central Queensland Coal Associates in 1977.

72 A. Fitzgibbons, op.cit., p.3.
to mining investments. In general, they displayed a preference for investments with short maturity periods, and few 'grass roots' mining projects qualified in this regard. For instance, Alcoa of Australia commenced operations in 1961, but it was 1969 before it paid its first dividend. Investors in exploration ventures would of course have to wait even longer for a (more uncertain) return.

Some private investors did subscribe to mining stocks during boom periods, but generally their aim was to obtain a quick return rather than undertake a long-term commitment. Some were also prepared to invest in large, established mining concerns which were better able to bear the risks of exploration, but of course this was of little use to small Australian companies attempting to develop mineral discoveries, while the larger companies were predominantly foreign-owned.

Neither would domestic mining concerns necessarily share the access of foreign companies to overseas borrowings. In many cases, the ability of Australian subsidiaries to raise loans abroad depended on the connections of their parent companies with international financial institutions, connections which domestic firms might not possess. So, for example, Alcoa of Australia attempted unsuccessfully in 1966 to raise overseas loans, but with the assistance of its parent, loans were obtained 'from companies and institutions...

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73 R.B. McKern, op. cit., p.167. In any case, the booms which attracted investors were usually short lived, and the flow of capital into mining stocks fluctuated substantially, whereas a sustained level of investment was required to fund exploration and development programmes.
which had contact with Alcoa U.S. 74 Once their operations achieved profitability, the subsidiaries themselves were frequently able to raise foreign loans, though their ability to do so still depended to a significant degree on the reputations of the parent companies. 75 In other cases, availability of foreign loans resulted from the ability of parent companies to themselves supply assured outlets for minerals produced or to negotiate long term contracts with third parties. 76 In general Australian companies did not in fact enjoy access to foreign funds on an equal basis with their foreign counterparts. 77 Once again, the formation of the ARDB (and, later, of the AIDC) improved the situation somewhat, as both organisations were able to raise loans abroad and channel them to Australian firms. However, in this case also the scale of operations was relatively modest; in 1971, the ARDB and AIDC had total combined overseas borrowings of $126 million. 78

A number of points arise from the above discussion. First, the availability of domestic capital increased significantly as the projects involved reached maturity, but by this stage

74 Alcoa of Australia, Submission to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 20 July 1972, p.647.
75 ibid.; R.B. McKern, op.cit., p.171.
76 This was the case, for instance, in relation to foreign loans obtained by Queensland Alumina Limited to finance construction of the Gladstone alumina refinery.
77 ARDB, Submission to the Senate Select Committee on Foreign Ownership and Control, 29 June 1972, p.179.
78 ibid., p.174; AIDC, Submission to the Senate Select Committee on Foreign Ownership and Control, 13 July 1972, p.417.
ownership was usually firmly in foreign hands. In the absence of Australian investment in exploration, valuable mineral deposits came into the possession of foreign companies; where equity was subsequently issued to Australians, it was usually in small lots and at a substantial premium. In other words, ownership of minerals was alienated because few Australian companies were willing or able to act as risk takers, and the fact that domestic capital was available at a later stage had little impact.

This raises a broader question. Even had sufficient domestic capital been available at each stage of the development process, there was a need for appropriate vehicles to mobilise capital and other resources, for a substantial number of companies which could raise risk capital and, where exploration was successful, marshall the financial, technical and marketing skills required to bring major mineral deposits into production. Some such companies did exist in Australia, but were few in number. There were even fewer concerns which were large enough to undertake massive investments in the large scale mining and handling facilities and supporting infrastructure required to exploit bulk commodities with low unit values (iron ore, coal, bauxite). The Alcoa venture was illustrative in this regard. It involved three of Australia's largest mining companies, North Broken Hill,

79 Comalco, Hamersley, Utah and Consolidated Gold Fields were among the companies which issued shares in this manner.

80 They included the Broken Hill companies, Western Mining Corporation, and Colonial Sugar Refineries Limited (CSR).
Broken Hill South and Western Mining Corporation, yet the funds required for initial development represented 150 per cent of their combined market value in 1961. In contrast, they represented 7 per cent of the market value of Alcoa US in the same year.  \(^{81}\)

The scarcity of suitable domestic vehicles for mining investment had an important side-effect. Those foreign companies which were willing to admit Australian partners at an early stage frequently encountered difficulties in finding suitable candidates. This was apparently the case both in the 1950s and 1960s \(^{82}\) and after the Labor government introduced ownership guidelines for the mining industry in 1973. \(^{83}\)

Thus if Australian minerals were to be developed without foreign help or through joint ventures between Australian and foreign companies it was essential to devise mechanisms through which domestic capital could be mobilised and to establish vehicles capable of utilising that capital efficiently in exploration and development. The Labor government recognised this fact, as indicated by its plans to expand the role of the AIDC, establish the National Investment Fund and the PMA, and generally increase direct government participation in mineral development. The question

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82 H.G. Raggatt, who served as Director of the BMR for many years, has stated that substantial numbers of foreign firms displayed a willingness to involve Australian companies in exploration and development, but that rarely could a candidate be found who was willing and able to participate. H.G. Raggatt, op.cit., p.55-6.

remains as to whether these initiatives could be effective in practice; this issue is dealt with below, but one general point should be made at this stage. Australia's savings were certainly not greater than her capital requirements; savings ratios were already very high and were unlikely to increase, and thus if domestic capital was mobilised for mineral development it would very probably have to be withdrawn from other uses, as the opposition claimed.

Foreign investors have played an important role in providing technology and technical expertise, though the significance of their contribution has varied from sector to sector of the industry. Australia has a long history of technical innovation in mining and metallurgy, particularly in association with working of lead, zinc, copper, and gold, but the expertise required to exploit the 'new' minerals discovered after 1945, particularly aluminium and nickel, was not available locally. For example, major bauxite deposits were discovered in Western Australia and Queensland by two Australian-based companies, Western Mining Corporation and the Zinc Corporation, in the 1950s. Though proficient in 84

84 The government could of course attempt to enforce a higher level of savings by increasing taxation, but any such action would probably be counteracted by a decline in voluntary savings.

85 For an account of some of those innovations, see MIM Holdings Limited, Submission to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 20 July 1972, pp.664-6; and Conzinc Riotinto of Australia, Submission to the Senate Select Committee on Foreign Ownership and Control, ibid., pp.750-1.

86 The contribution of foreign investors has not however been limited to the exploitation of 'new' minerals; for example, ASARCO made significant contributions to the development of lead, zinc and copper deposits at Mount Isa.
mining skills, these companies lacked access to the technology and expertise required to design, construct and bring into operation facilities for producing alumina and aluminium. The latter used their research facilities and their extensive experience to design processing facilities appropriate to the individual bauxite deposits, and supplied skilled expatriate personnel to supervise construction and operation of those facilities.

In both cases, expatriate staff numbers declined as Australian personnel were trained in relevant skills. However, specialised expatriate staff continued to be seconded to Australia, partly to facilitate the transfer of newly-acquired expertise from the parent company to the subsidiary or associate, while Australian staff visited the US for the same reason.

87 The basic process for extracting alumina from bauxite was well known, but variations in the chemical form of the alumina and in the levels of impurities present in individual bauxite deposits required refinements to the process, which were usually held as proprietary technology by the major producers; in addition, application of certain of these refinements required experience gained in an operating plant. The technology of the aluminium process was licenced to only a small number of companies, most of whom were large established producers. R.B. McKern, op.cit., p.178-9.


89 ibid., p.647, 649.
It should be noted that in these cases investment in mineral development came about partly as a result of the foreign companies' possession of relevant technology. Alcoa US, for instance, refused to make its technology and expertise available to WMC unless it was offered a 51 per cent shareholding in the Australian operation. Similarly, Kaiser Alumininium obtained a 50 per cent interest in the Weipa development.

This background did not augur well for the Labor government's hopes that foreign technology and expertise could be obtained without direct foreign investment. Those hopes were in fact dealt a severe blow at the Australia-Japan Ministerial meeting at which they were first expressed officially. The Japanese Ministers refused to study the feasibility of establishing a uranium enrichment plant utilising Japanese technology in Australia so long as the Australian government precluded Japanese equity participation in the project. If the government of a country utterly dependent on imported fuels took this attitude towards an energy-oriented development, it was very unlikely that other potential suppliers of technology would accept the Australian proposals.

The issue of the appropriateness of technology employed by foreign investors is enormously complex, because of the

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90 It also resulted from their access to sources of finance and to market outlets for the output of Australian bauxite and alumina. ibid., p.645.
91 ibid., p.645.
92 Kaiser's share in Weipa has since declined to 41 per cent.
variety of mineral and ore types worked in Australia. However, the outstanding feature of most recent developments has been the use of capital-intensive highly-mechanised mining methods, and in most cases use of such methods was unavoidable if bulk commodities with a low unit value were to be exploited efficiently. Labour scarcity and the remote location of many of deposits reinforced this requirement.

Creation of external economies

Because of the very specialised nature of many of the processes involved, it is unlikely that non-mining firms have benefitted significantly from technology or expertise imported by foreign mining companies. In the aluminium and nickel industries, ownership of the (sometimes secret) techniques is closely guarded, and consequently little 'spill over' to other mining companies occurs; each new venture makes its own arrangements with foreign suppliers of the technology involved. In areas where access to technology is more widely dispersed, the situation has been somewhat different. For instance, techniques for mining and processing of copper, lead, and zinc developed by or supplied to Mount Isa Mines and CRA have been licensed and made available to other firms. However, as B.L. Johns has pointed out, the high degree of foreign ownership in the mining industry means that relatively few Australian companies exist which might benefit from any

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94 CRA, Submission to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 20 July 1972, p.750.
such transfer of technology.95

Many recent mineral developments have been located in remote and sparsely-populated regions, and have consequently been accompanied by major infrastructural investments. For example, Hamersley's development of its Western Australian iron ore deposits required construction of roads, railways, and port and shore facilities, provision of power and water supplies, and the establishment of four townships.96 However, much recent infrastructural development has been particular to mining operations, reflecting the general absence of other forms of economic activity in remote regions. For instance in the Pilbara ports and railways are used almost exclusively for shipment of minerals, while townships and community facilities mainly serve mining company employees. In Queensland, railways associated with some mining projects (for example Mount Isa Mines, Utah's coal developments) pass through established pastoral areas, and have facilitated graziers' access to markets and lowered their transport costs.97

Mining company spokesmen and state and federal politicians and civil servants frequently express confidence that mine infrastructure will facilitate the establishment of new

95 B.L. Johns, 'Foreign Investment in Australia's Natural Resources', in J.A. Sinden, op.cit., p.297.


industries in Australia.\textsuperscript{98} To date, little evidence has emerged which might justify this confidence. Many of the projects involved have not of course been operational for very long, but the experience of well-established mining centres such as Mount Isa and Broken Hill, both of which have failed to establish significant industries autonomous of mining, is not encouraging. Once again, comparisons with earlier periods of mining activity may have created false impressions.\textsuperscript{99} Much of this activity was located in regions which were endowed with additional resources and could consequently support agricultural and manufacturing industries;\textsuperscript{100} many of the areas where recent developments have occurred are not so fortunate.

Creation of external diseconomies

Foreign mining companies have absorbed significant amounts of Australian resources, particularly labour, capital, and of course minerals. The labour utilised in mining would until recently have had alternative uses, and this is still the case in certain regions; however, as mentioned above, labour was probably employed more productively in mining than it would have been in its alternative uses.


\textsuperscript{99} Such comparisons have been drawn, for example, by S. Bambrick, \textit{The Integration of Australia's Mineral Policies}, Resource Policy Series No.3, Faculty of Economics, Australian National University, (Canberra, 1972), p.19.

\textsuperscript{100} For instance, much of the gold mined in the nineteenth century was won in Victoria and New South Wales.
Absorption of domestic capital raises more complex issues. The sums involved have certainly been substantial; over the period 1964-72 alone, foreign mining concerns raised over $620 million in loans and $670 million in equity from Australian sources. Could this capital have been more profitably employed elsewhere?

As regards loan capital, foreign mining companies had to compete with other potential borrowers, and presumably their success in raising funds reflected their ability to pay interest at rates as high or higher than alternative users. However, two points should be made here. First, where Australian lenders attached a lower element of risk to investing in a subsidiary of a multinational corporation, Australian borrowers might be denied loan finance despite their willingness to pay competitive rates of interest. If the lenders' risk assessment was in fact mistaken, a failure to maximise returns on capital would result.

As regards equity capital, a distinction should be drawn between equity subscribed at an early stage of the development process and that subscribed to established mining operations. As mentioned above, there is evidence that returns on Australian equity subscribed to established foreign-owned mining projects have been low, and to date most major equity subscriptions have fallen into this category. As an extreme example, it has been estimated that the AIDC would have earned an after-tax return of about 2 per cent if it had taken up CRA's share subscription offer (see above, p. 292).

102 'The High Cost of Nationalism', Age, 14 April 1973.
The willingness of Australian investors to subscribe equity in this manner can be explained by their expectations of receiving rates of return similar to those enjoyed by the original investors. The case of Hamersley Holdings Limited illustrates how mistaken such expectations can be; as of February 1975, Australian shareholders in Hamersley had paid on average 3.67 times as much for each share held as had the principal original shareholder, CRA.\(^3\) In sum, it is apparent that much of the domestic equity capital absorbed by foreign mining concerns might have been employed more profitably elsewhere.

Foreign investors have also used large quantities of non-renewable mineral resources. The issue here is whether mineral development should have proceeded at a slower pace, allowing Australian investors an opportunity to develop the capacity to exploit those resources. How long it would have taken them to develop that capacity is a matter for conjecture, but policy-makers in the 1950s and 1960s had few doubts as to the answer - large-scale domestically-financed exploration and development seemed very far away, while a high value was placed on immediate returns from mineral exploitation, particularly in terms of foreign exchange earnings.

The possibility that foreign mining concerns might pre-empt domestic investment by buying up or pushing out domestic mining companies is certainly real, and in this Australia differs from the other case study countries. Foreign investors might be able to act in this manner for a number of reasons.

\(^{103}\) Derived from CPD, House of Representatives, Vol. 93, 19 February 1975, p.508, Table II.
First, their greater size and the more diversified nature of their activities might place such concerns in a better position to bear the risks of exploration, giving them a competitive edge in the search for mineral deposits. Second, foreign companies might be able to outbid domestic rivals for resources discovered by third parties, for example because differences in taxation provisions between the foreign investor's home country and Australia affect after-tax returns, because of the global strategy of the foreign company confers additional value on the resource, or because its superior technical abilities raise the expected rate of return. Third, domestic companies might lack access to the capital required to develop mineral discoveries, and have to sell out to foreign firms which enjoy such access.

There is evidence that foreign mining companies operating in Australia have in fact enjoyed advantages of this type. It is generally recognised that their size and the diversity of their operations have assisted such companies in sustaining exploration activity, though this advantage has probably been counteracted to some extent by the greater local knowledge enjoyed by domestic concerns. Foreign companies have certainly been in a position to outbid local investors for

104 For example the ability of US firms to claim tax deductions for depreciation of buildings and depletion of mineral resources is thought to have favoured them in bidding against Australian companies.

105 See, for example, R.H. Harding, Participation in Mining Development of the Multi-interest corporation, the Multinational Consortium and the Multinational Corporation, Resource Policy Series, No.1, Faculty of Economics, Australian National University, (Canberra, 1972), p.23.

106 A number of Australian companies have certainly demonstrated an impressive ability to discover major mineral deposits.
mineral resources or the companies which possess them. In 1970/1, for example, the assets of a major exploration company, Minsec, were offered for sale. The AIDC, in association with a number of potential Australian investors, carried out a detailed assessment of their value, but even their most generous estimate fell far short of the figure offered by foreign competitors. 107 It is also evident that Australian companies lacked access to overseas funds for reasons unrelated to their technical competence; both the ARDB and the AIDC identified a number of such concerns. 108

It is extremely difficult to determine whether or not advantages of the type discussed above reflect real strengths which increase the capacity of the foreign companies concerned to exploit minerals efficiently, a point illustrated by their ability to outbid domestic concerns for mineral resources. For instance, the Canadian-based Noranda Mines Limited successfully bid against Australian concerns for Minsec's uranium interests. Noranda was evidently attempting to establish a strong position in the international uranium industry at that time, as it also purchased uranium interests and undertook uranium exploration in many other parts of the world, including Alaska, Ireland, Canada and Zambia. Its presence in Zambia, a country which, as mentioned above, was unlikely to attract exploration companies basing their investment decisions on 'normal' investment criteria indicates

107 AIDC, Submission to the Senate Select Committee on Foreign Ownership and Control, Official Hansard Report, 13 July 1972, p. 418.

108 ibid., p. 404; ARDB, 'Submission to the Senate Select Committee on Foreign Ownership and Control', ibid, p. 29, June 1972, p. 179.
that Noranda may have been prepared to pay in excess of a 'normal commercial price' for uranium reserves, presumably in the hope of sharing in monopoly rents at a later date. Thus its willingness to outbid Australian companies might have little connection with any superior technical expertise. On the other hand, Noranda may possess specialised skills which would allow it to mine Australian uranium more efficiently than a domestic concern.\textsuperscript{109}

Thus it is certainly possible that domestic investment has been preempted by foreign mining concerns, and that national income has consequently been lower than it otherwise would have been. The Labor government certainly believed this to be the case, and in particular that Australian mining companies required assistance to overcome their relative disadvantage in terms of access to capital. The government intended to provide that assistance through the AIDC and the PMA, but the ability of Australia's Senate to block the relevant legislation prevented it from doing so.

Two points can be made in relation to the impact of foreign mining investment on domestic income distribution. First, such investment probably exercised some upward impact on general wage levels, by creating additional demand for labour in a situation of full employment. However, the numbers employed in mining were relatively small (less than 2 per cent of the workforce), and consequently the direct impact is unlikely to have been substantial. For the same reason and

\textsuperscript{109} However this seems unlikely. Mining and initial processing of uranium is a straightforward operation, and could probably be carried out efficiently by most Australian mining companies.
because of the remoteness of the projects involved it is also unlikely that a significant 'demonstration effect' occurred.

Second, Australian investors may have been denied opportunities to earn higher returns on capital by investing in lucrative mineral developments. Thus to the extent that income distribution has been affected, the result has been to narrow income differentials between Australian workers and Australian investors.

This analysis permits some conclusions regarding the fears and assumptions underlying Labor policies. Certain foreign mining companies did engage in pricing and marketing practices likely to result in loss of Australian government revenue, and some (though probably few) may have failed to develop opportunities for viable mineral processing projects. Overseas investment in mining certainly did lead to a substantial outflow of incomes in the form of dividends and interest payments. But was it necessary to increase direct Australian participation in the mining industry to avoid these costs?

As regards transfer pricing, the essential problem arose from the difficulty of establishing 'arms length' prices for the commodities being exported. It is not obvious that greater Australian participation could solve this problem at a cost commensurate with the potential gains. If Australian participation were limited to the mining stage, difficulties would probably arise in disposing of mineral products previously traded within vertically-integrated multinational corporations. On the other hand, attempts to refine those products into finished metal in Australia might frequently prove to be
uneconomic, for reasons outlined above; since private Australian concerns would certainly be unwilling to subsidise such operations, the Commonwealth would have to do so. Consequently it seems that little could be done other than to apply the Taxation Commissioner's existing powers as rigorously as possible. 110

There apparently was a need for government involvement in certain cases to ensure that fragmentation and/or competition among mineral producers did not contribute towards under-pricing of mineral exports. This is not to suggest that the Australian government should have or could have cartelised producers and thus obtained monopolistic prices, or that intervention was required in relation to all minerals at all times, but rather that selective initiatives might be needed to ensure that producers obtained full current market prices for their exports.

Was it necessary to increase direct Australian participation in mineral development in order to prevent under-pricing, or did the application of export controls offer sufficient protection? Foreign firms might be less willing to voluntarily co-operate in negotiating with customers than would Australian companies, either because of relevant home country legislation (for instance US anti-trust laws) or because of equity ties with the customers involved. However, there is no evidence that foreign companies have been able to avoid

110 The Australian government could have attempted to relate export prices directly to the value of finished metal. Attempts by the Jamaican government to adopt this approach in relation to bauxite exports led the companies to reduce output in Jamaica, compensating with increases elsewhere; thus a united front would have to be formed among mineral producing countries before such an approach could succeed.
government-imposed discipline. Thus increased Australian participation might reduce the need for government to intervene, but would hardly enhance its ability to prevent under-pricing.

In those instances where failure to process minerals was due to the requirement of overseas companies for guaranteed sources of raw materials, increased domestic participation might result in greater local processing. However, a similar result could possibly be achieved by favouring foreign companies without such a requirement in the granting of mining leases, leaving domestic resources free for alternative uses.

Greater Australian participation in mineral development clearly was essential if the flow of incomes to overseas suppliers of capital was to cease. The important question in this instance is whether the Labor government was justified in its assumption that such participation could be achieved without significant decline in the efficiency or scale of mining operations or in overall levels of investment. It is evident that its expectations regarding the willingness of foreign mining companies to supply their resources (technology and technical expertise, entrepreneurship and risk capital) without being offered equity participation were largely mistaken. This misperception resulted from two factors. First, the 'oil crisis' of 1973/4 and the commodity boom which accompanied it distorted perceptions as to the true long-term demand/supply situation for energy minerals other than petroleum/natural gas and for non-fuel minerals, hiding the fact that alternative sources of supply would be available for most of these minerals for the foreseeable future, and that foreign investors would consequently not be prepared to pay a high premium for access to
guaranteed supplies from Australia. Second, foreign investors in fact generally equated 'security of supply' with the ownership and control conferred by direct equity participation, a point recognised by the Labor government towards the end of its term in office (see above, p. 308).

Thus additional domestic resources would have to be mobilised if Australian participation was to increase. As mentioned already, domestic capital mobilised for mining investment would probably have been withdrawn from other uses. If investment levels were not to decline, Australia would have to finance resource development with capital borrowed overseas, which would mean that interest payments would continue to flow abroad. In fact, this was the course the Labor government apparently intended to take. It is ironic that its attempts to do so brought about a constitutional crisis, its removal from office, and the abandonment of its schemes to increase Australian participation in mineral development.\(^{111}\)

There was also a need for Australian corporate vehicles which could act as risk-takers, apply mining capital efficiently, and marshall the other resources required for mineral development. Because of the shortness of Labor's term in office and of the legislative delays caused by the Senate and by legal challenges, it is a matter for conjecture whether the necessary entrepreneurial and other skills could have been provided by a combination of private Australian firms (assisted by the AIDC and the PMA) and government mining corporations. It seems likely

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\(^{111}\) For a description of the Labor government's attempts to raise loans overseas for this purpose, and of the political aftermath, see 'Rex Connor: A last testament on the Loans Affair', *National Times*, 29 August - 3 September 1977.
that a substantial period of time would have elapsed before these concerns could develop the technical expertise and the financial strength to undertake large-scale developments alone, and consequently foreign investors would probably have continued to play a major role. In addition, alienation of mineral ownership had already occurred to a considerable degree. For both these reasons, the level of foreign ownership in the mineral industry was likely to remain high for some time to come.

It was consequently important that taxation provisions applying to the industry should appropriate a substantial proportion of any economic rents arising from mining. This was so for another reason. The analysis in this Chapter indicates that the Labor Party was justified in its pessimism regarding the likelihood of substantial direct economic benefits arising from mining projects. Mining was highly capital-intensive and so had little employment-generating potential, backward linkage was comparatively weak, mineral processing was unlikely to create substantial benefits relative to the alternative uses of the resources involved, it was unlikely that mining infrastructure would give rise to significant additional non-mining activity, and there was little 'spill-over' of technology from the industry. Thus taxation of mining profits would constitute an important element in any benefits which Australia would receive from exploitation of its minerals.

112 In theory, separate taxation provisions might be applied to foreign and domestic companies, but considerations of equity and of administrative feasibility would dictate a unified approach.
Mining taxation and Australian federalism

Australia is unique among the case study countries in that taxes are imposed on mining operations by two levels of government: the Commonwealth imposes income taxes, while state governments charge royalties on minerals worked within their borders. (The Commonwealth collects royalties in the Territories). The Australian Constitution vests ownership of minerals in the Crown, as represented by the state governments, and royalties constitute compensation for use of the Crown’s property.

Until very recently, royalty rates were generally low; in 1968, for example, they amounted to $22 million, or only 2.5 per cent of the ex-mine value of mineral output in that year. A number of factors accounted for the failure of state governments to demand a higher return from exploitation of their mineral resources, perhaps the most significant being their concern to maximise the direct economic impact of mineral development. They were consequently reluctant to impose taxes which might render projects unviable or reduce the scale on which they proceeded and, lacking experience in dealing with large scale mineral developments, tended to err on the side of caution in assessing appropriate levels of taxation. Interstate competition also had some effect; while the fact that reserves of individual minerals were concentrated in one state (for

113 A significant exception were the royalties charged by New South Wales on the Broken Hill mines, which were profit based and steeply progressive.

114 BMR, Australian Mineral Industry Annual Review, 1968, Table 4, p. 4; Table 15.
example iron ore in Western Australia) might be expected to have diminished competition, state governments were anxious to ensure that their states did not generally appear less attractive to investors than their neighbours, and this concern exercised a depressive effect on royalty levels. In addition, most royalties had been set in earlier years at fixed sums which became increasingly less onerous as the money value of minerals rose. 115

By the mid 1970s some increase in royalty rates had occurred; in 1976/7, they amounted to 4 per cent of the ex-mine value of mineral output. 116

Three distinct types of royalties are applied in Australia: fixed charges on each unit of production (unit royalties), charges calculated as a percentage of the value of output (ad valorem royalties) and royalties calculated as a percentage of net profits. Frequently, two or even all three types will be employed in a single state; 117 the effective rate of royalty can vary from one mineral to another within each state, and from state to state in regards to the same mineral. 118

115 Reluctance to impose higher royalties apparently did not result from any likelihood that the states' entitlement to grants from the Commonwealth would be reduced if income from mining increased. Under the procedures adopted by the Grants Commission, royalty rates in the standard states (New South Wales and Victoria) affected the size of recommended grants, but rates in the claimant states did not. G. Stevenson, op.cit., p. 61.

116 Royalties were $201 million, the ex-mine value of mineral output $4,810 million. BMR, Australian Mineral Industry Annual Review, 1977, Table 4, p. 4; Table 15.

117 So, for example, New South Wales applies profit-based royalties to the Broken Hill mines, unit royalties to coal, and ad valorem royalties to other minerals.

118 For example, Queensland charges a unit royalty of 5¢ per ton on coal, New South Wales charges 50¢ per ton.
Some states, notably Queensland, also confiscate part of mining revenues by imposing inflated rail charges and by requiring the mine operator to finance construction of government-owned infrastructure. It is impossible to calculate accurately how much revenue is raised in this manner. However, information supplied by Mount Isa Mines to the Industries Assistance Commission in relation to Queensland indicates that profit generated by those lines which mainly carry mining traffic amounted to $30 million in 1973/4; by comparison, mineral royalties yielded $4.3 million in that year.

The impact of royalties on mining operations varies, of course, with the type and level of royalty involved. Unit and ad valorem royalties are similar in that they represent a charge on production which takes no account of costs; their effect is to hasten the point at which marginal costs equal price, thereby reducing the total quantity of ore mined. In other words, they raise cut-off grades. Depending on relative movements in costs and prices, the impact of unit and ad valorem royalties can increase over time though the rates at which they are charged remain unchanged. So, for example,

119 Western Australia and South Australia also apparently obtain revenue in this manner, though to a lesser extent than Queensland.
120 Derived from Industries Assistance Commission, Report, Petroleum and Mining Industries, Table A5, p. A60.
122 In theory, they might also serve to reduce the rate of extraction and so prolong mine life, a consideration which might be of considerable social significance in regions heavily dependent on mining. However in practice royalties have apparently exercised little impact on extraction rates in Australia. Industries Assistance Commission, Report, Mining and Petroleum Industries, p. 49.
the Western Australian iron ore producer, Hamersley, was subject to an ad valorem royalty of 7\(\frac{1}{2}\) per cent over the entire period 1967/8 - 1974/5, but because its costs rose much more steeply than prices over these years, the proportion of gross profits accounted for by royalty payments increased from 16.3 per cent in 1967/8 to 40.0 per cent in 1973/4.\(^{123}\) Where this occurs, the impact of royalties on production decisions is of course increased.

Unit royalties have an additional disadvantage in that their real value can decline considerably over time and, as a result, they are usually subject to periodic readjustment, adding to the degree of uncertainty faced by investors in the industry. So, for example, Queensland imposed a unit royalty of 10c a tonne on bauxite exported from Weipa when development commenced in 1957; by 1974, this charge seemed almost irrelevant, and it was increased tenfold to $1 per tonne.

It should be noted that freight charges have an equivalent affect to unit royalties where they are used to generate revenue, as they represent a fixed payment on each tonne of ore produced. Their hidden nature may create additional costs in that it can disguise inefficiencies in the allocation of resources, a point which also applies when state governments collect quasi-royalties by obtaining undertakings to develop uneconomic mineral processing facilities.

Profit-based royalties largely avoid the disadvantages discussed above, as they adjust in response to changes in both

\(^{123}\) ibid., Table A5.2, p. A64.
costs and prices. However they also will affect cut-off grades if their application reduces the expected rate of return on mining of certain ores below that required by the investor; in the same way they may render some mineral prospects sub-marginal.

This point also applies, of course, to income tax as it was charged on mining operations in Australia. While effective income tax rates were low, the practical impact was unlikely to be great, but a high proportion of economic rents would escape taxation. As effective tax rates increased, that proportion would decline, but the likelihood of mining operations being rendered sub-marginal would grow. 124

It is unlikely that application of royalties directly prevented development of any specific mineral prospect in Australia. As mentioned above, their generally low level reflected a determination on the part of state governments that they should not do so, a determination which still exists despite recent increases in royalty rates. The states have been careful to retain an element of flexibility in their royalty systems, and would very probably reduce royalties in individual cases if it could be demonstrated that developments would not otherwise proceed. So, for example, Queensland's Minister for Mines, Mr Camm, has stated that royalties imposed by his state will not result in the abandonment of any mineral prospect.

prospect. The corollary of this situation is, of course, that royalty charges are unlikely to capture a significant proportion of economic rents.

While royalty rates were low, it is also unlikely that they exercised a significant impact on production decisions. However the recent increases, especially where accompanied by unfavourable cost and price movements, may well alter this situation. Quite apart from changes in the industry's general cost structure, costs within individual mines tend to increase as ore grades decline and as mining occurs at deeper levels or requires stripping of additional overburden. As the mineral discoveries of the 1950s and 1960s move into later phases of their development, the impact of royalties may be expected to increase.

Thus the existing taxation system has important disadvantages, a fact widely recognised in Australia. Why then does it persist?

First, the royalty issue must be placed in a broader context. A strong belief exists in the principal mineral producing states (especially Queensland and Western Australia) that mineral policies formulated in Canberra reflect the consumer-oriented views of the Eastern industrialised states, combined with a strong element of economic nationalism, and that they consequently give scant recognition to their own interests.

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as mineral producers or to their need for development. As a result, there is a strong determination not to brook outside interference in the exercise of the prerogatives conferred on the states by their ownership of minerals, one of the most significant of which is the right to charge royalties. In other words, any initiative towards a more efficient taxation system would have little hope of success unless it originated with the states; for a number of reasons, this is very unlikely to occur.

First, a more efficient tax system would require a degree of centralised administration, because it would have to be applied universally or at least uniformly by each state. The mineral producing states fear that their interests would not be protected under a centrally administered tax system, for two reasons. They believe that its introduction would be accompanied by increases in the level of taxation which, in their opinion, would inhibit mineral development. In addition, they are convinced that Canberra would use the opportunity provided by its introduction to increase its relative share of mining taxation. The net result would be that their development would be inhibited while they would receive little or no compensation in the form of additional revenue.

These perceptions have been strengthened by the fact that proposals by the federal government to alter the tax system

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127 For a detailed discussion of the manner in which the mineral producing states have perceived mineral policy initiatives by Canberra over recent years, see G. Stevenson, op.cit., especially Chapters IV, VI and VII.

have in practice amounted to proposals that it impose additional taxes. So, for example, when the Liberal/National Country Party government envisaged in its 1977 Budget that a resource tax would be applied to profits above a certain rate of return, there was no question that the tax might be applied generally in place of existing provision and a portion of revenue receipts dispersed to the states, but only that the Commonwealth apply it to 'windfall' profits expected to accrue to oil and uranium producers. Introduction of the tax was bitterly opposed by Queensland and Western Australia, and their opposition played an important part in the decision to abandon it.

This approach probably reflected the Liberal/Country Party government's belief that opposition from the states would make it impossible to implement a more basic reform of the system, and that it should consequently act to obtain a part of the economic rents which would otherwise go untaxed. While it might have withstood pressure from Queensland and Western Australia in relation to the 'windfall profits tax', it is unlikely that a Labor government would be any more willing to attempt a fundamental restructuring of mining taxation.

A second major reason for the states' opposition to change results from the advantages their governments can obtain by retaining flexibility in the manner in which, and the level at which, royalties and quasi-royalties are set. Perhaps the


clearest example of the first is provided by the Queensland government's railway freight charges. By charging royalties in this way the government can subsidise freight rates to politically influential groups (urban commuters, rural dwellers) without appearing to grant direct subsidies which might be difficult to justify in economic terms.\textsuperscript{131}

Flexibility in the level of royalties can, for example, allow a state to encourage investment in mineral processing, in a particular mineral or region, and to establish a competitive edge over its neighbours in attempting to attract mining investment, should it feel the necessity to do so.

It could be argued that the states could retain much of this flexibility and avoid many of the disadvantages associated with the existing system by switching to a profit-based royalty. It has been suggested by not a few federal politicians and civil servants (especially during Labor's period in office) that their failure to recognise the benefits of doing so reflects the inability of their bureaucracies to grasp the full implications of using various types of taxation measures, a viewpoint often associated with a general belief that state civil servants and politicians lack information and expertise, have no aptitude for or interest in long-term planning, and think only of the immediate impact of their actions.\textsuperscript{132} I am not in a position to assess the validity of these views, but it is clear that state governments have at least one very concrete

\textsuperscript{131} This can occur because revenues from carriage of minerals are included by the Queensland railways in a consolidated account which does not differentiate between either revenues or costs by origin.

\textsuperscript{132} G. Stevenson, op.cit., p. 30.
and well-defined reason for preferring unit and ad valorem to profit-based royalties — incomes from the former are more stable and secure. Incomes tend to fluctuate less widely than under profit-based royalties, they accrue more quickly from new projects as profitability does not first have to be achieved, and perhaps most importantly the state is guaranteed a return regardless of whether a project achieves profitability or not. The belief that royalties should be charged regardless of profitability has little justification in economic theory, as the inherent value of the resource is thought to be defined by its ability to generate economic rents. However, there is a strong belief in most countries, including Australia, that mineral resources belong to the community, which should receive payments for their use, and from this perspective a fundamental weakness of profit-based royalties is that they fail to ensure that it will do so.

In sum, application of royalties and quasi-royalties is likely to create distortions in production decisions and in resource allocation, while the existence of the royalty system, and of the federal structures which underlie it, militate against the introduction of a more efficient taxation system by the Commonwealth.

Conclusion

The fears which underlay Labor Party policies were certainly not unjustified, though the extent to which practices inimical to Australia's interests actually occurred were sometimes exaggerated. It is less certain that the policies
adopted by the Labor governments of 1972-5 were appropriate in the Australian context. In the case of pricing and marketing practices and of mineral processing, much could have been done without diverting resources from other uses in order to increase direct Australian participation in mining. In addition, Labor leaders underestimated the obstacles they would face in attempting to achieve increased participation. On the other hand, some Australian investors apparently were well placed to take advantage of opportunities in the mining field, and a relatively small amount of government assistance might have allowed them to counteract the comparative advantages enjoyed by foreign concerns. Labor's attempts to provide that assistance, and to remove the obstacles to increased domestic participation which it did recognise, were frustrated by the powers exercised by the Senate within Australia's federal parliamentary system.

Certain of the assumptions which underlay Liberal/Country Party and state governments towards foreign-financed mineral development were also unfounded; in particular, their confidence that such development would generate substantial direct economic benefits was largely misplaced, and their relative disinterest in taxing the profits of foreign mining companies consequently inappropriate. Indeed federal and state governments of all political hues have failed to formulate an efficient taxation system; at the heart of this failure lies the state royalty system and the federal structures which underlie it.
Chapter Eight

MINERAL DEVELOPMENT IN PAPUA NEW GUINEA:

THE COLONIAL PERIOD, 1964-1972

Papua New Guinea consists of the eastern portion of the island of New Guinea and some 600 smaller islands, a total land area of 463,000 square kilometres. Its topography is rugged; much of the country is covered by steep mountains, while some 70 per cent of its land area is forested. Many of its rivers are unnavigable, there are no railways, and the capital, Port Moresby, is not connected to any other major urban centre by road.\(^1\) Because of its formidable geography, the country is culturally fragmented; over 700 local languages have been identified, while a wide variety of social structures exist, though most share two characteristics - a social security system through which members of kinship groups assist and support one another, and a system of land tenure in which ownership is a community right granted to individuals or families by agreement among owning groups.

Permanent contact with Europeans was not established until after 1870, when missionary, labour-recruiting, trading and plantation activities commenced. In 1884 Britain and Germany divided the area which now constitutes Papua New Guinea, Britain taking control of the southern mainland and the southern islands (Papua), Germany taking the northern

\(^1\) Air transport is used for much of Papua New Guinea's internal shipping and most of its passenger traffic.
mainland and its neighbouring islands (New Guinea). After the First World War, both areas were administered by Australia, separately until the Second World War and jointly from Port Moresby (as the Territory of Papua and New Guinea) thereafter.

Until the early 1960s Australian policy-makers assumed that Australia would administer the Territory for a long time to come, and little was done to encourage political participation by indigenous people. However, political development proceeded very rapidly from 1970 onwards. In 1973 Papua New Guinea was granted self-government and in 1975 it became independent. A Westminster-style parliamentary system was established, and this has since been modified by the creation of a system of provincial governments.

Papua New Guinea's economy is predominantly agricultural; subsistence agriculture (increasingly augmented by cultivation of export crops) engages from 60 to 70 per cent of its 2.9 million inhabitants, while over 50 per cent of its 350,000 wage earners are engaged in primary industry. Only 7.2 per cent are occupied in industrial activity. 2 Until very recently, Papua New Guinea's external transactions have been balanced by, and much of its public expenditure financed by, Australian government grants and expenditures. This situation has changed to some extent over the last seven years, primarily because of the development of a handful of foreign-financed

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export-oriented natural resource projects, the most important of which is the copper/gold mine on Bougainville Island.

In this Chapter and the next the development of the Bougainville mine is described, its impact on the economy, society and politics of Papua New Guinea is analysed, and issues arising from that analysis are discussed within the framework developed in Chapter One. The analysis is divided into two parts. Chapter 8 deals with the period of exploration and construction (1964-1972), a period dominated by issues relating to the impact of mining activity on the indigenous population. Chapter 9 deals with the operational phase (1972-1979), a period during which the distribution of profits between government and the foreign investor has been the central issue.

**Historical introduction.**

In 1929, two Australian prospectors discovered small amounts of gold in the Kupei area of Bougainville Island. In subsequent years other finds were made nearby, at Moroni, south of Kupei, and in a small valley east of Kupei called Panguna. Mining was carried on intermittently from 1940 until 1952, but Bougainville's 'gold rush' was of modest proportions. The deposits were located at a height of 3,500 feet in dense tropical forest, there were no stories of instant wealth to fire the imaginations of prospective explorers, and the gold was difficult to extract from the copper-bearing host rocks. When the gold miners abandoned Bougainville in the early 1950s, they left little trace of themselves, other than rusting pieces of equipment which soon disappeared under the encroaching forest.
Within a decade, foreign prospectors again came to Bougainville, attracted by the copper which had caused difficulties for their predecessors. In this instance, prospecting and mining activity was to have a profound impact on Bougainville, and on Papua New Guinea as a whole.

In 1961 a government geologist, J. E. Thompson, had compiled a report which concluded that the Panguna gold-copper prospect warranted investigation. At that time the London-based Rio Tinto Zinc Corporation (RTZ), through its subsidiary Conzinc Riotinto of Australia (CRA), was prospecting for low grade copper deposits in Eastern Australia. A company geologist, Ken Phillips, persuaded CRA that New Guinea offered a more favourable geological climate in which to search for such orebodies. Encouraged by Thompson's report, CRA decided to investigate the Kupei prospect, and in December 1963 it obtained a Special Prospecting Authority for the area.

Bougainville is the principal island of the northern group of the Solomon Islands, and is about 120 miles long by 30 miles wide. The steep Crown Prince mountain range dominates the Island; flat land is scarce, though Bougainville's volcanic soil is extremely fertile.

The Island's political status was determined in 1898 when Britain gave Bougainville to Germany in exchange for the rest of the Solomon Islands, whose inhabitants shared strong racial and cultural links with the Bougainvillians, and for the Tongan group. In 1914 Australia took over

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3 Thompson's report was published by the Australian Bureau of Mineral Resources in 1962.
Bougainville from Germany; Australian rule was characterised by an attitude of *laissez-faire*, if not by outright neglect, though individual officials tried hard to assist the local people. Complaints of Administration neglect emanated from every province in the Territory during the 1960s, but Bougainville apparently received scant attention even in relative terms. The Administration may have felt that the Island was comparatively well-endowed in natural resources and also in terms of social services (provided mainly by missionary groups), and consequently should yield priority to less fortunate regions. However, this circumstance did not detract from the sense of neglect felt by Bougainvillians. The Islanders also apparently suffered at the hands of individual Europeans, enduring 'specific acts of discrimination including occasional physical violence'.

Little accurate information exists regarding the economic or social character of Bougainville in the decades

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4 Australia governed the Island under military rule (1914-1921), as part of the Mandated Territory of New Guinea (1921-1942), and as part of the Trust Territory of Papua and New Guinea (1945 onwards). Bougainville fell under Japanese military rule from 1942 to 1945.


prior to 1963. Commercial agriculture had commenced in the 1880s, when Australian and European interests established coconut plantations in coastal areas. Relatively few Bougainvillians accepted the wage employment offered by the planters, preferring to rely on subsistence production, and plantation labour was drawn from Highland and other districts, particularly in the post-war period.

By the early 1960s, about 75 per cent of Bougainville's 72,000 indigenous inhabitants were still engaged in agriculture. Output of cocoa and copra was substantial by this stage. Large-scale production was dominated by expatriates, but many local people were producing cash crops to supplement subsistence income. It has, however, been estimated that 41 per cent of the indigenous workforce were still entirely engaged in subsistence production in 1966. Aggregate figures distort the picture somewhat; it is likely that villages located away from flat, fertile coastal areas were considerably more dependent on subsistence farming.


Treadgold has estimated that only about 20 per cent of males of working age were in wage-employment in the late 1930s. Derived from M. L. Treadgold, The Regional Economy of Bougainville, p.5.

In the late 1960s, Bougainville accounted for one sixth of PNG's copra production and one quarter of its cocoa production.

In 1964, Bougainville was an island whose people harboured a sense of resentment, developed over many decades, against the Australian Administration and against Europeans in general. The Bougainvillians were also a people whose whole mode of existence depended on access to and use of agricultural land.


In January 1964, Phillips travelled to Kieta to prepare for a geological survey of the Kupei prospect. He sought the assistance of Max Denehy, the Assistant District Commissioner, in dealing with the local people, but Denehy was very short staffed and unable to help. In mid April 1964 Phillips set out for Kupei with three assistants; none of the four had extensive experience of working in areas populated by non-Europeans.

Initially, no objections were made to their presence. In early May a group of local people visited the site to find out what the geologists were doing. A lengthy discussion ensued during which the villagers questioned CRA's right to prospect on their land, but as far as Phillips was concerned they approved the presence of the

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11 Use is made of Phillips' own account of events in this section: see K. Phillips, 'Notes on Contact with Bougainvilleans in the Early Exploration Phase', reproduced in R. Bedford and A. Mamak, Compensating for Development: The Bougainville Case, (hereafter referred to as Compensating for Development), Bougainville Special Publications No.2, (Christchurch, 1977), pp. 151-60. Phillips' account was verified where possible in interviews held with Severius (Sev) Ampoai, a local schoolteacher who was closely involved in events during this period, at Panguna on 19 June 1978.
exploration team. Whatever the case, one group of local people, the Guavas, soon expressed opposition to CRA's activities, and demanded that the geologists leave. Subsequently, Denehy pointed out to Phillips that CRA was not employing any Guavas; he called village leaders to Kieta and explained CRA's plans in detail, and Phillips undertook to employ Guavas at the Panguna site. This apparently placated the Guavas, as exploration work was not interrupted for several months thereafter. By September 1964, Phillips was convinced that a major copper deposit existed at Panguna.

In the meantime, CRA sought exclusive prospeecting licences for the Panguna area, and a Warden's Court was held in Kieta in January 1965 to consider its application. The Guava people objected to the granting of the licences, and questioned the Court's right to issue them. The Mining Warden explained that existing legislation vested ownership of all minerals in the Administration and thus conferred that right on the Court, but the Guavas denied the validity of the Administration's claim. Despite their objections, CRA's application was successful.

Phillips apparently gained this impression largely from the attitude of one individual, a Nasioi named Oni. Later commentators have claimed that Oni was an outspoken individual who had no right to commit the larger community to co-operation with CRA, and that the Company's failure to realise this gave rise to conflict at a later date. (J. Momis and E. Ogan, op.cit., p.110.) The CRA team was certainly ill-equipped to analyse the sociological intricacies of village society, but Phillips claims that Oni, though he later lost influence, was a major force in the whole area in 1964, and not just an outspoken Nasioi. It is possible, however, that Oni caused dissatisfaction among local people by failing to pass on information provided by Phillips and by not distributing cash and food payments given to him as leader of his clan (K. Phillips, op.cit., p.160).
In January CRA also received its first really favourable drilling results; CRA and the Administration's Mines Division now knew that there was a strong probability of a mine eventuating in time.\(^{13}\)

From January 1965 onwards, Phillips spent much of his time trying to convince local people that the Panguna development would be in their interests, a difficult task since he was unable to say what financial benefits development might bring. The Mining Ordinance then in force did not provide for payment to landowners of occupation fees or of compensation for minerals removed. Phillips and Denehy were concerned with the implications of this situation; they were facing more and more questions as to what local people would gain from CRA's activities, and many villagers were now openly expressing dissatisfaction with the Company's presence.

In mid 1965 Phillips and Denehy submitted a document on the matter to the Administration in Port Moresby. This discussed the problems of the Company and of the local people, offered advice as to how conflict between the two could be avoided, and emphasised the need to promise monetary compensation to local people for minerals removed from their land.

The unusual step of submitting such a document was taken because, as Phillips explained, 'we were quite sure that [Port] Moresby had no real appreciation of the situation and Denehy was entirely frustrated in trying to

\(^{13}\) K. Phillips, op.cit., p.156.
get anything through normal channels'. More immediately, it was prompted by a number of incidents involving CRA personnel and local people. In July 1965 Phillips was absent from Bougainville. His replacement, a senior exploration man from Melbourne, pushed the exploration effort ahead vigorously despite warnings from Denehy and Phillips, and sent a party into Mainoki village without consulting the villagers. The party was expelled and the villagers refused to permit CRA personnel back on to their land, an attitude they maintain to this day.

The most serious incident apparently resulted from a misunderstanding. The Company wished to prospect in an area between Panguna and Kupei, and it consulted the Kupei and Guava people who, it believed, held customary rights in the area. As far as CRA understood, there was no objection. A hunting party from Musinau, a village which, unknown to CRA, held hunting rights in the area, came upon the exploration camp and pulled it down. Police were called in and a number of Musinau men were imprisoned. Following this incident, a substantial body of policemen were brought into the prospecting area. The majority were soon withdrawn but this type of exercise was precisely what Phillips and Denehy had been working to avoid.

Relations between local people and the authorities deteriorated rapidly from this time onwards, and in Phillips' view the visit of the Minister for External Territories to Bougainville in mid 1966 was 'the major milestone' in this process. Mr Barnes was briefed for about half an hour on

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14 ibid, p.157.
his arrival at Port Moresby by the Assistant Administrator, Henderson. He flew to Kieta and without consulting Denehy or other individuals on the spot spoke to meetings of local people. In effect, Barnes told these people that there was nothing in the Panguna development specifically for them, but rather that the project would benefit Papua New Guinea as a whole. Phillips and Denehy were thunderstruck; a new Mining Ordinance was then being prepared and they had conveyed their optimism regarding its likely provisions to the local people.

In the wake of the Minister's visit, more and more local people refused CRA employees access to their land. The Administration responded by adopting a 'hard line' policy. Denehy, who was convinced of the need for patience and compromise, was transferred from Bougainville. Additional police were drafted in and a patrol post established at Panguna. By the following year the situation was, according to Phillips, 'appalling'.

In June 1966, amendments to the Mining Ordinance were introduced in the House of Assembly, a legislative body made up of elected representatives and of 'official' members appointed by the Administration. The amendments reasserted the principle of Administration ownership of minerals, a principle which Administration spokesmen defended on the basis that mineral exploitation should benefit all Papua New Guineans, not merely those fortunate enough to own land rich in minerals. They pointed to the actions of other

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15 This principle had been applied to New Guinea by legislation enacted in 1928; the amendments extended its application to Papua.
national governments in legislating for state ownership as
evidence of the concept's validity, and stressed that every
dollar of mineral revenue would be needed by Port Moresby
to finance the economic development of the Territory as a
whole.16

The Acts provided for payment of a minimum occupation
fee of $1 per annum to landowners affected by prospecting
or mining activity.17 Persons wishing to enter and prospect
on private land would have to obtain a permit from an open
Warden's Court, thus allowing 'full opportunity for public
interest and private interest to be represented'.18

The member for South Bougainville, Paul Lapun, was
entirely dissatisfied with these provisions. The Acts
provided for the imposition of royalties on mineral
production, and Lapun tabled an amendment providing that
20 per cent of those royalties would be paid to the
landowners involved. He pointed out that, according to
local custom, mineral rights belonged to the landowner.
Mining would deprive local people of their livelihood as it
would permanently damage their land, and substantial
compensation was therefore required. Lapun warned 'if the

16 PNG House of Assembly Debates, 8 June 1966.
17 The annual fee would amount to 5 per cent of the
unimproved capital value of the land or $1, whichever was
the highest. The minimum annual payment was later raised
to $2 for land included in mining tenements.
18 If a landowner was dissatisfied with the decision of the
Warden's Court he could appeal the verdict to the Supreme
Court. This provision was unlikely to have any practical
effect since subsistence farmers would hardly possess the
resources to undertake such litigation. In fact no
Bougainvillian was to employ this provision though many
were certainly dissatisfied with the verdicts handed down
by Warden's Courts.
people in Kieta are dissatisfied...trouble could arise.... If the landowners receive a share of the potential benefits then they will welcome the company'. ¹⁹

Lapun's amendment was strongly opposed by the Administration, which argued that the concept of state ownership would be undermined by payment of royalties to landowners. In any case, it was stated, payment of compensation and occupation fees would ensure that landowners were not disadvantaged, while islanders would benefit directly from developments associated with the mine. ²⁰

Lapun reduced his demands to 5 per cent of royalties but the Administration stood firm and his amendment was defeated.

Lapun re-introduced it in November 1966, by which time trouble had indeed arisen on Bougainville. The Administration again opposed the amendment, but a number of members were now convinced that some initiative should be taken. Lapun assured the House the prospect of obtaining a share of royalties would satisfy his constituents, and the amendment was passed. ²¹

But Lapun was mistaken - his efforts did little to improve the situation on Bougainville, where conflict between the local people and CRA continued. In fact many villagers refused to accept the payments due to them lest acceptance be interpreted as indicating their willingness to alienate their land.

²⁰ ibid.
In the following years, the hostility of local people would wax and wane; most have now fully accepted the benefits resulting from mineral development, though many still resent the presence of the Company and its employees. Certain villages have consistently refused to have anything to do with the mining project. The events of 1964-1967 were crucial in determining the attitude of local people to the Panguna development. What caused the confrontation and conflict which characterised CRA's early involvement? Could that confrontation have been avoided or mitigated?

The causes of conflict.

A certain degree of conflict was probably inevitable, given the nature of CRA's activities and of Bougainville's economy and society. The variety of languages spoken on the Island combined with the very different cultural backgrounds of the individuals involved certainly made it likely that misunderstandings would arise and that mistakes would be made. Nevertheless, conflict need not have been as serious nor as extensive as it was.

First, some of CRA's mistakes could have been avoided if the advice of officials 'on the ground' had been heeded.

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22 CRA has not denied that it made mistakes. As a senior executive stated in 1972, 'With the convenient benefit of hindsight I freely acknowledge that my company made mistakes. We lacked knowledge (and so did some of those whose advice was recommended as reliable) and we lacked experience of a project of this size in a remote location in a developing country'. See F. F. Espie, 'Bougainville Copper: difficult development decisions', in R. J. May (ed.), Priorities in Melanesian Development, (Australian National University Press, Canberra, 1973), p.337. However, as I point out in the text, some of the mistakes could have been avoided if CRA had paid more attention to the good advice which was available.
The action of a senior company official in sending geologists into Mainoki village (see above) is a case in point. Secondly, and more importantly, CRA and the Administration could have done considerably more to try and understand the character of the local people, and to act in a way designed to minimise their resentment and allay their fears. This section outlines and seeks to explain the failure of the Company and the Australian authorities in this regard.

It is apparent that, at least over the period 1964-1967, neither CRA nor the Administration made any deliberate attempt to familiarise themselves with the social, cultural, economic or political circumstances of the people with whom they were dealing, though both knew from January 1965 onwards that a mine might well eventuate on Bougainville. 23 Individuals like Phillips and Denehy learned much from personal experience, but their superiors made little use of this knowledge, a fact especially evident in relation to the whole issue of land and land use.

It is difficult for any outsider to grasp fully the meaning of land to a Bougainvillian villager, but the following passage offers some insight:

Land is our life. Land is our physical life - food and sustenance. Land is our social life; it is marriage; it is our only world. When you [the Administration] take our land, you cut away the very heart of our existence. We have little or no experience of social survival

23 This has been confirmed by Sev Ampaoi, who during these years was closely involved in community affairs (as a schoolteacher and as chairman of the Local Government Council), and who would certainly have known of any such attempt. Interview, Panguna, 19 June 1978.
detached from the land. For us to be completely landless is a nightmare which no dollar in the pocket or dollar in the bank will allay; we are a threatened people.24

In general, officials showed little appreciation of the importance of land, as indicated by the Administration's failure to offer villagers more than a small yearly cash payment in return for land which, if mined, would be permanently lost to them.25 In addition, they failed to take into account the nature of land ownership and usage on Bougainville.26

Because of the system of ownership and inheritance practised by villagers, numerous individuals other than the current occupier might hold an interest (or potential interest) in any one piece of land. A cash payment might satisfy the occupier, but it offered nothing to other interested individuals. An important point as regards land usage was that its various aspects might be treated quite separately. Land could be built on, planted, hunted on, walked through, or used as a food collecting area, but rights to carry out certain of these activities might belong


25 Administration claims that the land would eventually be returned to its owners, and was therefore merely being leased, were facile and were treated as such by the villagers.

26 The whole question of land ownership and land usage is a very complex one, and is only touched on briefly here. For a fuller discussion of the issues involved, see G. M. Denning, 'Traditional Concepts of Land Ownership on Bougainville', in Papua New Guinea Society of Victoria, Background to Bougainville - a Factual Analysis, Melbourne, 1969), pp. 31-5; J. Nash, Matrilinity and Modernisation: The Nagovisi of South Bougainville, New Guinea Research Bulletin No.55, (Australian National University, 1974); D. L. Oliver, op.cit., Ch.8; P. G. Sack, op.cit.
to individuals or groups other than the occupier or occupiers. Failure to realise this led directly to conflict (for example in the case of the Musinau hunting party), and also generated resentment among those who did not receive occupation fees as compensation for their loss of rights.

Administration officials also showed little awareness of the political feelings of Bougainvillians. They constantly appealed to the islanders for co-operation on patriotic grounds, and resisted Bougainvillian demands for a share of royalties by claiming that mining revenue should benefit Papua New Guinea as a whole. The concern of Australian officials with nation-building is understandable, but in calling on a patriotic sentiment they entirely ignored the political realities: such a sentiment simply did not exist. The focus of loyalty for most Bougainvillians did not extend beyond their clan or district. They certainly had no loyalty to 'Papua New Guinea', and felt that revenue generated by their cocoa and copra industries was already being used for the benefit of other Papua New Guineans, while they themselves received little or nothing from Port Moresby. Bougainvillians simply could not understand why they should make sacrifices so that others might reap the benefits.

Neither did the Islanders automatically accept that the 'benefits' which the Administration did promise (towns, roads, bridges, etc.) would be to their advantage, another

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27 See, for example, *TPNG House of Assembly Debates*, 14 June, 23, 24 November 1966.
fact which Australian officials failed to realise. Many villagers could not comprehend the implications of such developments, and in a society where giving imposes obligations the prospect of largesse on such a scale caused considerable anxiety.  

This lack of understanding on the part of Administration officials explains why they were so frequently at cross purposes with Bougainvillians, and why they often became frustrated in their attempts to explain and justify their actions. As one official commented:

No amount of talking and reasoning on any subject whatsoever, will alter their thinking and therein lies the basic problem. Once a decision is made by the people nothing no matter how sound, sane, and logical will be listened to, and unsound, insane and illogical reasoning on their part will be used to defend their decision. [Emphasis in original.]  

Australian Administrators failed to understand that their actions might be sound, sane and logical within their own frame of reference, but might appear unsound, insane and illogical within the autonomous cultural, social and political structures employed by Bougainvillians to assess

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28 As Peter Hastings has explained: giving...is a method of imposing obligations on others. Where the gift given to a person is reasonably commensurate with his capacity to repay, in goods or services, a state of reasonable equilibrium is created between giver and recipient. Huge or culturally immeasurable largesse, however welcome, may impose a repayment obligation which it is impossible to meet, arousing deep anxiety and consequently even deeper hostility in the recipient. New Guinea: Problems and Prospects, (Cheshire, Melbourne, 1973), p.1962.

initiatives taken by outsiders. The Administration need not have allowed its decisions to be dictated by the islanders, but it should have accepted their reactions to its policies as legitimate expressions of anger, self-defence or fear and, where possible, amended those policies accordingly. To some extent what was involved was a question of attitude. Had the Administration's attitude been different, CRA's activities would have generated considerably less resentment.

Nevertheless, the crunch would have come. Some local people simply wanted CRA to 'wrap up its things and go home', while the Administration was determined not to allow a small group of villagers to obstruct a major mineral development. However, though Bougainvillean would inevitably have had to face the fact that mining would occur, and that their lives would be radically changed, the trauma of facing such change could have been mitigated. This is well illustrated by the issue of compensation and royalty payments.

Throughout the House of Assembly debates on the royalty issue, Administration spokesmen claimed that Bougainville people were simply anti-mining, that they wanted CRA to leave, and that offering them a share of royalties would have no effect on their attitudes. Yet Phillips and Denehy, the two individuals who had the most direct contact with local people over the preceding years, believed that it was vitally important to offer concrete financial incentives to the villagers. Clearly they felt that though a 'dollar in

30 See, for example, the statements by Grove and by Newman, TPNG House of Assembly Debates, 23 and 24 November 1966.
the bank' might not compensate a villager for his land, it
would make his loss more acceptable.

Apart from the royalty question, the Administration's
general approach was unsuitable to circumstances on
Bougainville. Denehy and Phillips were in favour of
compromise, of patient endeavour designed to fully inform
people of developments and hopefully to win their approval.
They opposed the use of force in response to hostile
reaction by local people. The Administration rejected this
approach and pushed for vigorous action, meeting resistance
with coercion, a strategy implemented under Denehy's
successor, Bill Brown.

It is obvious that the Administration was unwilling
rather than unable to develop a policy suitable to the
situation on Bougainville. For example, officials in Port
Moresby must have been aware of the sensitivity of the land
issue. After all, the Administration had been dealing with
indigenous systems of land ownership for fifty years. It
received ample advice from Denehy and Phillips on the royalty
issue and generally on its dealings with local people, but
that advice was ignored.

31 K. Phillips, op. cit., p.158.

32 It is illustrative of the Administration's attitude
that while Brown was later awarded an OBE in recognition of
his services, Denehy received no such reward for his years of
patient work on behalf of the Bougainville people. (J. Ryan,
Given this attitude, individuals like Denehy were powerless.
As Sev Ampaol commented, 'there was little the people "up
front" could do - if they were not fighting hard enough for
the Administration, it would replace them'. (Interview,
Panguna, 19 June 1978.)
What explains the Administration’s behaviour? To provide an answer, it is necessary to understand the broader context within which policy towards the Bougainville project was formulated. In 1962, a visiting United Nations Mission had criticised the Administration for failing to formulate plans for the economic development of the Territory, a criticism later repeated in a number of United Nations General Assembly resolutions. The Mission also stated there was an urgent need to rapidly increase expenditure on education for Papua New Guineans. In 1963 the Australian government invited the World Bank to draw up an economic development plan for the Territory. The Bank recommended a policy aimed at achieving rapid growth in the monetary sector of the economy, and argued that substantial increases in Australian financial support would be required if this policy were to succeed. Again, the urgent need for increased educational expenditure was stressed.

Thus by 1964 the Administration was anxiously searching for ways in which to stimulate growth in the monetary sector of the economy, and for sources of internal revenue which would allow public expenditures to be maintained, and Australian subsidisation to decline, with the advent of independence. Given Papua New Guinea’s economic circumstances, large-scale mineral development offered perhaps the best prospect of achieving both. The discovery of the Panguna

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prospect was consequently a heartening development for the Administration.

CRA, on its part, was anxious that prospecting be concluded quickly, and it apparently exerted pressure on the Administration to ensure that prospecting teams were not withdrawn when faced with local opposition, lest they be prevented from re-entering the area. CRA's need for haste continued after detailed exploration and project evaluation commenced. It regarded the Panguna prospect as a marginal one whose viability might depend on 'catching' a predicted boom in copper prices. The Administration accepted CRA's viewpoint and believed that if delays occurred it might lose a development which it very much wanted to proceed.

The approach advocated by Phillips and Denehy would take time, as indeed would any detailed analysis of the situation on Bougainville. As CRA had convinced the Administration that time was precisely what it did not have, a different strategy was required.

In pushing for a more forceful approach, CRA was of course attempting to further its shareholders' interests. At least in theory, the Administration's duty was to protect its subjects' interests and thus fulfil its trusteeship. Officials in Port Moresby would doubtless have contended that this duty applied to all Papua New Guineans and that they could not therefore delay a development which would benefit the whole Territory.

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36 This attitude was expressed by a number of officials during the debates on the royalty issue. See TPNG House of Assembly Debates, 14 June, 24 November 1966.
The royalty issue was a different matter. The question of time was not involved, and indeed a concession in this area might well have saved time as local opposition to CRA might have been mitigated.\textsuperscript{37} As mentioned above, the Administration claimed to be defending the principle of state ownership of minerals. If that principle was breached, it argued, individual landowners could obstruct development and claim part of mineral revenues.\textsuperscript{38} But by 1966 it was apparent that individuals could cause obstruction without possessing mineral rights, and it was clear to officials on Bougainville that financial incentives would have to be offered if local opposition was to be overcome.

This raises the broader question of whether legal concepts considered appropriate in other countries were suitable to local circumstances. Bougainvillians simply could not understand why minerals under their land should belong to the Administration, and given the enormous importance they attached to land it would seem reasonable that Bougainvillian landowners should be entitled to more generous compensation than their counterparts in Western societies.

But the Administration, anxiously seeking sources of revenue, was determined to retain all royalty payments for its own purposes, and it was the question of who would receive royalties, rather than any consideration of principle,

\textsuperscript{37} As far as CRA was concerned, it mattered little who received the royalties, and if payments to local villagers made the Company more acceptable, all the better from its point of view.

\textsuperscript{38} TPNG House of Assembly Debates, 14 June 1966, 23, 24 November 1976.
which was the real issue. In fact a proportion of royalties could have been paid to villagers without recognising their claims to mineral ownership, by calculating occupation fees as a percentage of the value of mineral production.

The Administration's economic policies are analysed below, but whatever the economic rationales for its actions, they were interpreted by Bougainvillians as indicating its determination to protect its own interests or those of CRA. When the Company wanted an exploration licence, it was granted. If local people expelled CRA personnel from their land, police were brought in to ensure that prospecting continued. If villagers acted to protect their traditional rights, they were imprisoned. Bougainvillians felt that the Administration was deliberately sacrificing their interests. It was this feeling of being abandoned, at a time when powerful and only partly understood forces were radically changing their lives, which lay behind much of the resentment and anger felt by local people. The Administration could certainly have done much to allay that feeling without sacrificing the Panguna project. Its failure to do so was to have a long and sometimes bitter legacy.

By 1967, both CRA and the Administration were showing greater awareness of the need to win local endorsement for

39 All applications for licences were considered before a public Warden's Court, but in fact not one of CRA's applications was rejected.

40 This feeling was further enhanced when the Administration purchased a 20 per cent shareholding in CRA's Panguna operation. See below, p.416.
the Company's activities. CRA undertook projects designed
to demonstrate the beneficial effects of its presence. It
built a road on Bougainville's West Coast to facilitate
transport of export crops, and provided free medical
treatment to local people. It also initiated a training
programme for indigenous employees. The Administration
increased its staff on Bougainville, and a number of officials
were given the duty of informing local people of CRA's plans
and of explaining developments.

Despite these efforts, opposition to CRA's activities
persisted. The attitude of local people brought
criticism from many House of Assembly members, who felt that
Bougainvillians should be satisfied now that they were
guaranteed a share of royalties and were benefiting from
infrastructural developments. On 9 March 1967 the House
passed a motion stating that it fully supported CRA's
prospecting and mining activities.

The background to the Bougainville Copper Agreement.

By late 1966, exploration work at Panguna had reached
an advanced stage. Eventually, ore reserves of 900 million
tons would be established, grading on average 0.48 per cent
copper and 0.36 dwt. per ton gold, and also containing

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41 Administration officials claimed that the persistence of
local opposition vindicated their belief that the promise of
royalty payments would have no impact. This view was hardly
justified since, as yet, local people had no indication of
precisely what financial benefits they might receive, and
indeed were unsure whether a mine (and consequently their
share of royalties) would materialise at all. In any case,
the suspicion and resentment generated during the early
exploration period would not be easily dispelled.

42 TPNG House of Assembly Debates, 9 March 1967.
silver in recoverable quantities. As its initial exploration programme neared completion, CRA faced the prospect of investing substantial sums in project evaluation and possibly project development. The Company was therefore anxious to negotiate a contract with the Administration which would spell out the terms under which any development would take place. As the position stood in 1965, CRA would automatically be entitled to a mining lease if and when its deposit was proved commercially viable, but the Mining Ordinance did not specify the terms on which a lease would be granted.

In June 1966, the Mining Ordinance was amended to allow the granting of Special Mining Leases which would specify conditions governing individual mineral developments. Negotiations on the terms of a Special Mining Lease for the Panguna prospect were in fact already under way and in June 1967 an agreement was concluded between CRA and the Administration. Before its terms are outlined, the policy aims and priorities of the two parties will be discussed briefly. 43

The Administration had two principal concerns, to guarantee a major source of internally-generated public revenue for the future, and to secure an immediate source of export income and of stimulation to the monetary sector of the economy. Administration officials did not believe that internally-generated revenue was needed urgently, since

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Australian subsidisation was guaranteed in the short term and since the Papua New Guinea economy could not in their view efficiently absorb additional large-scale public expenditures. However, as Papua New Guinea approached political independence (a prospect not likely to eventuate before 1980, it was then felt), and as the economy expanded and became capable of absorbing resources at a greater rate, the need for domestic sources of revenue would increase.

The Administration was anxious to secure a major source of export income as quickly as possible, since the Territory's external balance of trade was permanently and substantially in deficit. It also hoped that the establishment of a major mineral project would act as a catalyst to further private investment both directly, by providing a demand for goods and services, and indirectly, by generating interest and confidence in Papua New Guinea as a location for private foreign investment.

The Administration was therefore prepared to forego revenue in the short term in order to ensure that the Panguna development would proceed and thus contribute to the implementation of its broader economic and financial strategy.

CRA wished, of course, to operate as profitably as possible at Panguna, and more particularly to achieve a high level of profits during the early years of mine life. The Company's preference in this regard reflected, in part, the application of a discount rate to future earnings, but it also reflected CRA's capital requirements. Substantial loan

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^44 The Administration failed to realise that its decision to forego mineral revenues would itself reduce the Panguna mine's impact on the balance of payments.
finance would be needed to help fund a development at Panguna. The prospective lenders would attach a high risk factor to investment in the project, partly because of the political uncertainty they would associate with investment in a developing country, partly because of economic and technical factors associated with exploitation of the Panguna orebody. CRA would have to persuade these lenders that its cash flow would be sufficiently large to allow rapid repayment of its borrowings, thus ensuring that their funds would be at risk for the shortest time possible. The Company would therefore be prepared to accept high taxation rates at a later date in return for concessional rates during the early years of production.

CRA would also wish to minimise uncertainty as to future operating conditions, both to protect its own interests and to allay its creditors' fears of political instability. It would therefore attempt to have its rights and obligations clearly specified, and to obtain assurances that the agreement would not be altered to the Company's detriment.

The Bougainville Copper Agreement, 1967.

The terms of the arrangement between the Administration and Bougainville Copper Pty. Limited (BCPL) (a CRA subsidiary

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45 The most important of these related to the low grade of the Panguna ore, to the scale of operations which would be required to exploit that ore profitably, and to the price instability which characterises world copper markets.

46 Any such assurances might of course later be abrogated, but at least while the Australian Administration remained in control they might be expected to offer a measure of security.
incorporated in Papua New Guinea), were contained in the Mining (Bougainville Copper Agreement) Ordinance 1967. BCPL would be granted a Special Mining Lease for an initial period of 42 years, the principal financial terms of which would be as follows.

The Company (BCPL) would pay royalties at the rate of 1\(\frac{1}{4}\) per cent of the f.o.b. sales value of minerals produced (Clause 5(h)). BCPL would be exempt from income tax during the first three years of commercial production (Clause 7(a)). Under general taxation provisions, the Company could allow for depreciation and amortisation and for financing costs in calculating its taxable income. Clause 7(a) and (b) provided that these allowances would not be claimed during the three year tax exemption, but would be accumulated and set against revenue in calculating taxable income from the fourth year onwards. This provision was necessary if income earned during the initial three years was to be permanently exempted from taxation; the accumulated allowances would be deductible immediately, and thus BCPL's liability to taxation would be postponed for some years after the end of the tax free period. Clause 7(e) exempted 20 per cent of BCPL's net income from taxation, a concession then generally available to mining companies in Australia and


48 BCPL was granted successive rights of renewal for further terms of 21 years, if required.

49 The exact duration of the postponement would depend on the scale of relevant capital expenditures and on the Company's profitability.
Papua New Guinea and which the Company would continue to enjoy even if the general exemption were revoked.

When BCPL's net income did become liable to taxation, the applicable rate would rise from 25 per cent\(^{50}\) to 50 per cent over four years (Clause 7(k)). After the twenty-fifth year of production the tax rate would rise by one per cent each year to a maximum of 66 per cent (Clause 7(p)). BCPL also undertook to offer the Administration 20 per cent of its equity at par value.\(^{51}\)

The Agreement also set out the rights and obligations of the two parties. The Company agreed to carry out a detailed feasibility study of the Panguna prospect as quickly as possible and, if the outcome was favourable, to construct within five years facilities for mining and transporting ore in commercial quantities. (Clause 6(a)).\(^{52}\) In meeting its construction obligations, the Company would use supplies, machinery and equipment manufactured or produced in the Territory so far as was 'reasonably and economically practicable' (Clause 9(a)). The question of further processing of mineral output was left at the Company's discretion (Clause 16). BCPL also undertook that, so far as was 'reasonably and economically practicable', it would

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\(^{50}\) This was the standard rate in the Territory at the time.

\(^{51}\) The Administration could later transfer this shareholding to local individuals or groups if it wished, and the holders of a majority of the Administration shares would have the right to appoint a director to BCPL's Board (Clause 8).

\(^{52}\) The Company also agreed to construct a hospital to serve its employees and any town servicing the mine, but the Administration would later reimburse BCPL for the cost of this work.
use and train in new skills labour available in the Territory and...
continue and expand its training programme...with a view to the early employment by it in technical and staff positions of suitably qualified inhabitants of the Territory.

(Clause 10 (a)).

The rights of the Company were also spelt out in detail. It would of course receive Leases for mining and ancillary purposes (Clause 5(a)). It would have the right to import any items it needed (Clause 9(b)), and would be free to recruit abroad personnel required for construction or mining activity (Clause 10(b)). It could construct a port and roads on Bougainville Island. The Company would exercise administrative control over these facilities, but public access would be permitted, except where BCPL felt that such access would interfere with safety or with mine efficiency (Clauses 11, 14).\textsuperscript{53} The Company was also granted the right to construct a hydro-electric power station and to generate, transmit and sell electric power, and it could take and use water for this and other purposes.

The Administration agreed to provide and maintain 'education, police, postal, telecommunication and medical facilities'. In general terms, its other obligations corresponded to the rights of the Company, while its principal rights were to levy the taxes and other charges outlined above and to obtain a 20 per cent equity shareholding in the operating company.

\textsuperscript{53} In such cases BCPL could 'prohibit, restrict or regulate the use of and traffic on all Company roads and close any Company road...' Individuals who disobeyed the Company's instructions in this regard would be liable to arrest and fine or imprisonment (Clause 14, Preamble).
Another purpose of the Agreement was to guarantee BCPL against financial or other impositions beyond those specifically laid down in the Ordinance. It would not be disadvantaged by any alterations to the Territory's general tax legislation and would not be subject to any taxes or tariffs which were discriminatory in law or in practice (Clause 7). One effect of this provision was that import duties and a range of other taxes were frozen at the low levels which then applied.

The Company would be free to choose its employees at all levels, its contractors, suppliers and customers, and to declare, credit and pay dividends. The Administration undertook not to 'expropriate or permit the resumption of any asset...of the Company'; the term 'expropriation' did not simply imply confiscation of property but would also include 'any substantial interference with the rights of the owner to control or carry on...[his] business...' (Clause 17).

Both the Administration and CRA wished to obtain House of Assembly ratification for the Agreement and the relevant Ordinance was discussed in the House on 29 and 30 August 1967. Little detailed comment was made on its terms, and very few Papua New Guinean members spoke. This was hardly surprising; many of the provisions were extremely complex.

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54 In fact the Agreement would not come into effect until that ratification was obtained. The approval of the House was sought by both parties because of the conflict on Bougainville, and because of the realisation that Papua New Guinea would achieve self-government or independence in the not-too-distant future.

55 TPNG House of Assembly Debates, 29 and 30 August 1967.
as was the language in which they were couched. Those members who did speak, including Paul Lapun, expressed general approval of the Agreement.

Assessing the Agreement: the Administration's negotiating effort.

It is difficult to develop a standard against which to assess the Agreement. A number of authors have attempted to use similar agreements negotiated elsewhere at about the same time as a standard, but this approach raises two major problems.

First, it does not allow conclusions regarding the Agreement as a whole, since each arrangement contains a different mix of provisions relating to taxation, depreciation, government shareholdings and provision of infrastructure. For example, the arrangement concluded between Indonesia and Freeport Minerals Limited in 1967 for the development of the Ertsburg copper deposit provided for a lower nominal tax rate than did the Agreement, but did not permit immediate write-off of capital expenditure. The Indonesian government was not offered a shareholding in the operating company, but on the other hand did not undertake

56 The provisions of the Agreement have been very much simplified in the account above. For an example of the complexity of the original, see Clause 7(a) regarding the carrying forward of losses.

57 Lapun's only criticism was that indigenous people, rather than the Administration, should be offered the 20 per cent shareholding in BCPL. TPNG House of Assembly Debates, 29, 30 August 1967.

58 See, for example, G. O. Guttman, op.cit., pp. 102-5; R. B. McKern, op.cit., pp. 90-1.
to provide and maintain a part of mine infrastructure. The full financial ramifications of the two agreements could not therefore be compared until mining had been carried on under each for a substantial period of time.

Even if such a comparison was available it would not offer a basis on which to assess the Australian Administration's negotiating effort, for two reasons. First, the potential bargaining power of other host countries might have been different. For example, Indonesia in 1967 had recently experienced great political unrest (associated with the overthrow of Sukarno), and might consequently have found it impossible to attract foreign investors without offering special concessions. Secondly, other host country governments might have failed to exercise the potential bargaining power which they did possess.

A comparison between the Agreement and the minimum concessions required to attract CRA's investment would allow a judgement as to whether the Administration fully utilised its bargaining power, but it is difficult to establish what those minimum concessions were. CRA has not published any relevant information, while the absence of large-scale mineral developments prior to 1967 deprives us of what might have been a useful yardstick.

The report of an international mission which studied development strategies for Papua New Guinea in 1972 (the

59 For details of the Ertsburg Agreement, see G. O. Guttman, op.cit., p.104; R. B. McKern, op.cit., p.90.

60 In the Irish case, for example, it was possible to point to mineral developments which had previously taken place under less generous provisions in claiming that the granting of a twenty year tax exemption was unnecessary.
Faber Report) claimed that the Agreement offered the original shareholders (CRA and related companies) a return far in excess of that required to attract the necessary investment. In support of this viewpoint it quoted a feasibility study carried out in 1969 which estimated that these shareholders would receive an annual return on capital of 34 per cent (at conservative metal price forecasts.) The Report concluded that the Administration's over-generosity resulted in part from its lack of relevant expertise.61

The Report's emphasis on the feasibility study's profit forecast marks a very important point - the study was carried out in 1969. It could not have been compiled in 1967, because the basic operational characteristics of the prospective mine were unknown.62 Consequently, the Australian negotiators could not gauge its likely profitability even in very general terms; the only guide they had was CRA's claim that the project would be marginal.

Its lack of information placed the Administration at a serious disadvantage, and it could have done one of two things to strengthen its position. It could have negotiated a flexible agreement which would take account of the possibility that its bargaining position would improve as additional information became available, or it could have


62 As a senior Administration official later stated, 'at the time of negotiations there was no certainty that the project would proceed, or on what basis or size it would proceed'. D. Mentz, 'Administrative Aspects of the Bougainville Development', in Papua and New Guinea Society of Victoria, op.cit., p.12.
taken steps to immediately increase the level of information it possessed. It did neither, negotiating financial terms which were largely inflexible, and failing to obtain an independent assessment of the likely character of any development at Panguna. Thus its failure was not in neglecting to utilise its available bargaining power, but rather in neglecting to provide for, or to bring about, increases in that power.

It is important to note that the Administration could have negotiated a considerably more flexible arrangement while giving BCPL many of the assurances it sought regarding operating conditions. For example, renegotiation of the *Agreement* could have been provided for if (and only if) the project proceeded on a scale considerably in excess of that anticipated, or a sliding scale of royalties could have been negotiated, the upper range of which would only apply if the project was unexpectedly profitable. And while it lacked the technical competence to assess the prospects for Panguna itself, the Administration could have employed independent consultants to do so. But it chose to accept CRA's projections at their face value, and thus displayed considerable *naivete*, since it was

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63 The Mines Section of the Department of Lands, Surveys and Mines only had sufficient resources to deal with the administrative aspects of exploration and mining leases and to render some technical assistance to small-scale gold miners.
extremely unlikely that the Company would describe its deposit as anything but marginal.\textsuperscript{64}

Was the Administration engaged in complicity with CRA? The explanation for its failure to negotiate more flexible financial terms apparently lies more in its low position on the relevant 'learning curve'. The Administration did not, in fact, lack expert advice \textit{per se}, as it was assisted by staff employed by Australia's Federal Government in its Treasury Department, its Attorney General's Office and its Bureau of Mineral Resources.\textsuperscript{65} However, the Administration's claim that these officials 'were experienced in making similar agreements in Australia'\textsuperscript{66} was probably incorrect. The Australian Federal Government did not then negotiate terms for the development of particular projects, but rather applied a general tax regime to all mining

\textsuperscript{64} As a United Nations official with wide experience of assisting host governments in negotiating mining agreements has stated, '...I have never been in a negotiation where the project has been described by the mining company other than as a marginal deposit'. C. J. Lipton, 'Government Negotiating Techniques and Strategies', in United Nations, \textit{Negotiation and Drafting of Mining Development Agreements}, (Mining Journal Books, London, 1976), p.107.

It is not clear whether BCPL deliberately played down the potential value of the Panguna deposit or whether it was as uncertain as to its likely profitability as was the Administration. The important point is, of course, that Administration officials accepted BCPL's projections without question.

\textsuperscript{65} See the statement by Mr Henderson, \textit{TPNG House of Assembly Debates}, 30 August 1967.

\textsuperscript{66} Ibid.
operations. Their professional background may have led the Administration's advisers to ignore the importance of, and the need to provide for, shifts in the relative bargaining powers of the host country and the foreign investor in relation to specific projects.

The Administration's acceptance of CRA's profit forecasts is a different matter. Its uncritical approach may have reflected a failure on its part to distance itself sufficiently from the fellow Australians who ran CRA. It is evident from the statements of its spokesmen in the House of Assembly and from the policies it implemented on Bougainville that the Administration perceived a considerable degree of affinity between its interests and those of CRA, a perception which can only have been enhanced when it obtained a 20 per cent holding in the Company. This feeling of affinity may have dulled the Administration's awareness that its interests differed from CRA's in important ways, and that the Company might have a strong incentive for being less than frank with it. On the other hand, the Administration may have simply been overawed by and unwilling to challenge CRA's obvious superiority in the field of mining expertise, a feeling it would certainly have shared with authorities in many other host countries.68

67 State governments negotiated items specific to individual developments such as royalty rates and terms for provision of infrastructure.

68 See the account on p.77-8 below of the attitude of Irish authorities in this regard in the 1950s and 1960s.
Assessing the Agreement: a broader perspective.

The Agreement can also be assessed within the framework of national social and economic policies. The policies being pursued by the Administration in 1967 substantially followed the recommendations of the 1963 World Bank report which recommended monetary sector expansion based largely on production of agricultural and forestry goods for export. The Bank advocated that 'expenditures and manpower be concentrated in areas and on activities where the prospective return is highest'. Resources should be channelled into 'areas of good land which are readily accessible and where development is relatively easy'; once the economy had grown, allocation of resources to more difficult areas could be considered.

The World Bank urged the Administration to 'concentrate its efforts on the advancement of the native people, but did not question whether its economic policies were appropriate in the light of this recommendation.

In 1968 the Administration published a document entitled Programmes and Policies for the Economic Development of Papua New Guinea, setting out its economic policies for the next five years. No basic change in the development strategy was envisaged, though a more broadly-based approach would be adopted. The document called for 'considerable

69 The International Bank for Reconstruction and Development, op. cit.
70 ibid, p.35.
71 ibid, pp. 35-6.
72 ibid, p.34.
73 Government Printer, Port Moresby, September 1968.
expansion in the agricultural, pastoral, forestry, mining and manufacturing industries, requiring heavy private investment and expatriate involvement'. Private investment would come substantially from expatriate businessmen and foreign companies who alone would possess the necessary financial and technical resources. The aim of this development strategy was to achieve 'the maximum participation of the indigenous people as a means of progress towards economic self-reliance and social advancement'.

In this instance, it was very apparent that discrepancies might exist between stated policy aims and the measures advocated for their achievement. Since expatriates and foreigners would provide the main impetus for growth, they would presumably also reap the direct benefits of economic expansion. This raised the question of precisely what kind of participation indigenous people would enjoy and to what extent real social advancement would occur. The Administration's position was based on two important assumptions, first that if aggregate income grew quickly the benefits would automatically 'trickle down' to all Papua New Guineans, and secondly that indigenous people would be better off 'with a small share of a large cake because at

74 ibid, p.104.
75 ibid.
76 It also raised the question of what was meant by 'economic self-reliance' since dependence on foreign capital and skills would clearly continue if not increase. It is apparent that 'fiscal self-reliance' would have better described what the Administration hoped to achieve.
Independence or some time thereafter it is the size of the cake that counts, not who owns what share'.

The Administration's position was criticised by a number of Australian economists. One of these, Rod Crocombe, attacked the absence of concrete measures to enable indigenous people to overcome the disadvantages they would face in attempting to benefit from economic expansion. Without such measures, Crocombe argued, the type of development advocated by the Administration would offer Papua New Guineans participation 'mainly as labourers for expatriate industry... [or] as peasant producers for expatriate industry to buy produce from and supply goods to'.

Crocombe also argued that the question of who owned what 'share of the cake' was of considerable immediate significance. He pointed out that poverty and wealth are relative concepts, and that social and political problems would arise if the indigenous population became relatively poorer and foreigners relatively richer, regardless of whether indigenous living standards rose in absolute terms.

How does the Agreement relate to these policy issues? Its implementation would obviously accord with the Administration's strategy, since it would involve a commitment of resources to an export-oriented project from which the prospective returns were high and which would contribute

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77 ibid, p.104.
79 ibid, p.60.
substantially to monetary sector growth. But its operation would certainly raise the questions of indigenous participation, 'trickle down' effects, and income distribution.

Indigenous participation could occur in various ways. Employment opportunities would be created, at least initially at unskilled and semi-skilled levels only. The Agreement required the Company to train nationals for technical and staff positions, but there was no timetable attached to this requirement and the inclusion of the phrase 'as far as is reasonably and economically practicable' would grant considerable flexibility to BCPL. This is not to suggest that the Company would not in fact undertake an effective training programme, but only to point out that the Agreement did little to ensure that it would do so. Indigenous participation in the management of the project would be slight because of the almost total absence of suitably-qualified personnel. In terms of ownership, participation would be negligible, unless the Administration's shareholding was distributed to the public. In any case, ownership would remain predominantly foreign. Participation by nationals in the financial benefits generated by the mine would be small, at least initially. Such benefits would flow mainly to CRA, to the lending banks, and to highly-paid expatriate workers, and as a result Papua New Guineans would receive a smaller relative share of national income.

There was little indication that 'trickle down' effects from the mine would be substantial. Wage payments to nationals would be modest as the numbers employed would be small and their skill levels low, and expenditure of wages
would not therefore generate very much additional economic activity. It was unlikely that significant linkage effects would materialise, since the domestic economy could not provide the necessary goods and services. Purchases of foodstuffs and provision of infrastructure might have an important effect on Bougainville's economy, though public use of infrastructure would be at the Company's discretion.

In sum, Papua New Guinea possessed neither the human nor physical resources to play a substantial part in providing skilled labour, capital, goods or services to the Panguna mine, a point which applied generally to the type of economic development sought by the Administration. Consequently, the Bougainville project would contribute significantly to increased indigenous participation in economic activity only if it helped finance economic development programmes which would utilise domestic resources. The financial arrangements negotiated by the Administration meant that substantial government revenues would not be obtained for some time. BCPL's decision to mine the high-grade sections of the orebody first (see next page) also meant that the richest parts of the deposit would have been exploited before full tax rates applied.

Thus it is apparent that the Bougainville Copper Agreement was appropriate in the light of the economic measures being taken by the Administration, but that neither those measures, nor the Agreement, were likely to substantially assist in achieving the Administration's stated policy aim of maximising indigenous participation in economic activity.
preparations for mine development.

Having concluded an agreement with the Administration, BCPL carried out a detailed feasibility study of the Panguna prospect, undertaking complex and exhaustive research designed to indicate the combination of production levels, grading policy and other mining practices which would maximise the present value of operating cash flows. It was concluded that an open pit operation on as large a scale as possible was required and that mining should initially be concentrated on the high-grade sections of the orebody. Physical, financial and marketing constraints indicated that approximately 90,000 tons of ore per day should be mined, inferring annual metal production (in concentrates) of about 165,000 tons copper, 500,000 ounces gold and 1 million ounces silver. Production would therefore be far in excess of that anticipated by the Administration when it negotiated the Agreement (70,000 tons copper, 200,000-300,000 ounces gold).

Market outlets and loan finance would have to be secured before development could proceed. It had been decided to dispose of Panguna's output in concentrate form; the Company's product would be of a high quality, rich in by-product metals and low in impurities, and BCPL successfully

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81 The Panguna deposit was characterised by significant variations in ore grades. While the cut-off trade was set at 0.2 per cent copper, two ore zones grading in excess of 0.6 per cent copper were identified.

82 See the statement by the Director of Lands, Surveys and Mines, TPNG House of Assembly Debates, 8 June 1966.
negotiated long-term contracts with smelters in Japan, Germany and Spain providing for sales of concentrates with a total copper content of 1,992,500 tons over fifteen years. BCPL would be paid for the metal content of its concentrates at prices based on prevailing London Metal Exchange quotations for copper and silver and London Gold Market quotations for gold. A base price of 30¢/lb would apply to copper sales.

BCPL required an estimated US$250 million in loan capital to help finance the planned development at Panguna, and in early 1969 CRA and RTZ set about raising this amount. A consortium of 27 banks from 8 countries was assembled, and in July 1969 a Credit Agreement was signed between it and BCPL. Two separate loans were negotiated. The first, known as the Intermediate Loan, was for a maximum of US$154 million, a sum which would be made available directly to BCPL. The second, or Long Term loan of US$92 million would be provided to the Commonwealth Trading Bank of Australia (CTBA), which would then pass on an equivalent amount in Australian dollars to BCPL.

The loans were guaranteed by a pledge of BCPL's shares, which effectively meant that CRA was the principal guarantor.

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83 Different methods of calculating the relevant quotations were to be employed by the Japanese and European smelters. Japanese purchases would be based on average LME prices in the month following each sale, while the European smelters could 'back-price' or make payment at prices prevailing on a day of their choice during a defined period. (Limits existed on the tonnages which could be priced at any one day's quotation.) Interview with BCL's Treasurer, Panguna, 14 June 1978.

84 I am grateful to BCL for making a copy of the Credit Agreement available to me.
RTZ was not a guarantor, but it undertook to maintain a controlling interest in BCPL at least until repayment was complete. RTZ played a crucial role in raising finance for BCPL. It utilised its extensive links in the international banking community to assemble the Consortium, while the Consortium's willingness to provide finance depended to an important degree on RTZ's assurance that its technical and financial expertise would be available to CRA and BCPL.

The necessary financial and marketing arrangements were completed by July 1969, and construction was soon under way on Bougainville.

Renewal of conflict and the emergence of secessionism on Bougainville.

As CRA's activities expanded and its presence took on an air of permanence, some Bougainvillians began to consider more radical political action, particularly the possibility of secession. Secessionist sentiment existed on Bougainville before the Company's arrival. The blue-black Bougainvillians felt little affinity with their lighter-skinned Papuan and New Guinean countrymen, having more in common racially and culturally with the inhabitants of the Western Solomon Islands. This feeling of separateness was matched by a sense of insularity which was enhanced by Bougainville's distance from the mainland, and by the

85 Credit Agreement, Appendix f.
conviction that the islanders had been neglected by Port Moresby and mistreated by Europeans.

But it was only after CRA's arrival that secessionist sentiment was articulated by politically influential individuals, or was widely reflected in public opinion. Many local people believed that the Administration was deliberately sacrificing their interests in pursuit of its own and CRA's objectives, and that the House of Assembly, dominated by the 'redskins' they distrusted, was determined that Bougainvillians should bear the costs of mineral development while other Papua New Guineans enjoyed the benefits.87 To people who felt threatened and abandoned, secession seemed an attractive alternative, and the prospect of substantial copper revenues appeared to make it a financially viable one. Self-government or independence could give local people increased control over CRA's actions, and would certainly allow them to obtain a greater share of the benefits generated by mineral development. The issues of control and of financial gain were quite separate, and it is apparent that Bougainvillians differed in the priority they attached to one or the other.88

On 1 September 1968, 25 prominent Bougainvillians met in Port Moresby to discuss their island's political future.

87 Evidence for this belief was found in the House's initial rejection of Lapun's royalty legislation, in its criticism of Bougainvillians for their stand on the land issue, and in its passing of a motion which expressed approval of CRA's activities (see above, p.411).

88 This point has been made by Raymond Mikesell: Foreign Investment in Copper Mining in Papua New Guinea: Current Developements and Prospects, paper prepared for the Bureau of Intelligence and Research, US Department of State, (Washington, September 1973), p.7.
They called for a referendum in 1970, which would ask Bougainvillians whether they wanted to remain within Papua and New Guinea, join the British Solomon Islands Protectorate, or become a self-governing and eventually independent republic. Not surprisingly, the Administration's response was critical: secession would undermine its entire strategy in relation to the Panguna development. Many Papua New Guinean leaders joined in the criticism, and the twenty five were accused of attempting to selfishly monopolise the benefits of mining on Bougainville for the islanders themselves. 89

By mid-1968 the Administration and CRA were looking for land near Kieta on which to construct a town and other facilities. 90 A number of clashes occurred between local people and Company surveyors, one of which led to the arrest and imprisonment of villagers from Pakia. The renewal of conflict was one reason for the meeting of Bougainvillians in Port Moresby.

The Administration examined a number of potential town sites, and chose an area at Arawa comprising a 1,000-acre expatriate-owned plantation and 650 acres owned by the Arawa people. 145 acres of the Rorovana people's land was earmarked as a location for a construction camp and other facilities; this land would be leased by CRA, while that at Arawa would be alienated permanently.

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89 J. Ryan, op.cit., p.326.

90 Very little land was available in Panguna and the adjoining valleys, and consequently a large proportion of employee housing and mine services would be located on the coast.
The Administration's decision was criticised by local people, who pointed out that a fertile and highly-developed plantation would be destroyed, and argued that village land should be used and the villagers given the plantation, or that swamp land should be reclaimed. The Administration pointed out that resumption of village land would cause much greater disruption than that of a plantation owned by a small group of expatriates. In its view development of swamp land was unacceptable, because of the time this would take. On these grounds it rejected a number of alternative sites proposed by the villagers and by CRA.

The Administration initiated negotiations for purchase of the land; the plantation's owners accepted its terms after a long struggle (in which they were supported by the local people) and under threat of compulsory acquisition. The Arawa people rejected them, as did some Rorovanas, and the Administration obtained a compulsory leasing order on the Rorovana land. The villagers ignored the order, and in August 1969 riot police employed physical force (including use of tear gas) to remove them.

The Administration's action received wide publicity, much of it critical, in Australia. The Australian Prime Minister, Mr Gorton, intervened in the dispute, and instructed the Administration to depart from its principle of not allowing direct negotiations between local people and...
CRA. This principle reflected the Administration's determination that land sales on Bougainville should be at prices applicable in the Territory as a whole, so as to avoid setting a precedent which might be applied to purchases of land needed for development elsewhere. It believed, correctly, that CRA would pay prices well in excess of the norm in order to avoid costly delays.  

CRA soon negotiated a 42 year lease with the Rorovanas on terms considerably more favourable than the Administration had offered,  and a similar arrangement was subsequently concluded between the Administration, BCPL and the Arawa people. Having been granted a much more generous settlement, the coastal people accepted the Company's presence and there was no further violence. But the threats of compulsory acquisition and the use of force at Rorovana lost the Administration whatever credibility it retained with local people, and served to strengthen secessionist sentiment on the Island.

The Administration had attempted to implement two policies which were in practice irreconcilable. It tried to ensure a rapid pace of development, while refusing to grant

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94 In a letter to a Melbourne legal firm dated 14 August 1969, CRA's legal officer pointed out that each day's stoppage could cost the Company up to $30,000, and that it was therefore in its interests to be generous with the villagers. Quoted in R. Bedford and A. Mamak, Compensating for Development, p. 94, n. 31.

95 The Administration had offered the villagers $15,000 ($105 per acre), an annual rental of $725 ($5 per acre), and an equivalent amount of land elsewhere. CRA offered $30,000, an annual rental of $7,000 ($48 per acre), and gave the villagers an option on 7,000 BCPL shares.

96 For the terms of this agreement, see R. Bedford and A. Mamak, Compensating for Development, p. 26.
villagers compensation above the agricultural value of their land. But if development was to proceed rapidly, concessions had to be made on the issue of compensation. The alternative was conflict.

In June 1969 the Director of District Administration, Mr Ellis, outlined to the House of Assembly the actions which the Administration had taken over the previous three years to improve communication with Bougainvillians. He detailed the work undertaken by officials in informing local people of CRA's plans, in explaining the Company's rights and the villagers' entitlement to compensation and other payments, and in accompanying prospecting teams into villages. It is apparent from the information supplied by Ellis that the Administration invested considerable time and effort in this work. But it clearly failed to understand that one action such as the use of riot police at Rorovana could counteract the years of painstaking effort.

By early 1970 the main phase of development was under way at Panguna. The construction of the mine and ancillary facilities involved an enormous commitment of human and physical resources. By early 1972, preparation of the Panguna deposit was complete, processing facilities were installed, and sites prepared for the disposal of waste rock and mine tailings. Town sites complete with recreational, commercial and educational facilities had been constructed at Panguna and Arawa, a two-lane highway connected Panguna

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97 TPNG House of Assembly Debates, 19 June 1969.

to the coast, and port, power generation and fuel storage facilities were established at Loloho (near Arawa). The Administration had upgraded the Aropa air strip, constructed a road from Kieta to Arawa and Loloho, installed a telecommunication system and constructed schools, houses and other facilities at Arawa.

Total project costs plus working capital exceeded US$490 million. BCPL obtained US$177.4 million under the Credit Agreement, US$53 million from Japanese lenders, and equipment loans of US$89 million from the US Export-Import Bank and Australian suppliers. The Commonwealth Savings Bank of Australia provided a housing loan of A$12.5 million (US$14.8 million). Total loan capital was therefore US$334 or A$282 million. BCPL's shareholders provided a total of A$133 million or US$151 million, giving total investment of A$415 million or US$491 million and a debt:equity ratio of 2.1:1.0.\footnote{It should be noted that the public shareholders contributed a disproportionate amount of this A$133 million, since they paid $1.50 per share as against CRA's 50c per share.}

BCPL commenced commercial production on 1 April 1972.

Conclusion.

This Chapter has described the discovery and development of a copper-gold deposit by a foreign investor operating in a colonial setting. Attention was focused on two aspects of mineral development - its impact on local people, and the financial and other terms under which development proceeded.

\footnote{Exchange rates used to derive these figures are those which prevailed in 1972.}
In both cases, policies adopted by the colonial Administration played a crucial role in shaping events.

Regardless of how it was conducted, mineral exploration and development would have imposed some costs on indigenous people. The foreign nature of the mining enterprise was partly responsible for increasing those costs, because its personnel were unfamiliar with local conditions, but the Company's determination to proceed with development rapidly (a determination which any private enterprise pursuing its shareholders' interests would have displayed) was a much more important factor. It was the Administration's duty to ensure that private interests were pursued at minimum cost (and maximum benefit) to the indigenous population, and in this it failed.

That failure did not occur because the Administration acted as the Company's agent, as some commentators have claimed; while the Administration certainly did much to facilitate CRA's activities, it had its own reasons for doing so and some of its policies ran contrary to CRA's interests. Rather the failure resulted from policies adopted in pursuit of Australia's interests and Papua New Guinea's perceived interests.

Concern with Australian interests was most apparent in the drive for the fiscal self-reliance which would remove the need for subsidisation from Canberra. This drive

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102 As mentioned below, the Administration failed to maximise the contribution of the Bougainville mine to fiscal self-reliance, and thus did not serve its own interests as well as it might have.
influenced general economic policy, and was partly responsible for the emphasis on aggregate growth, regardless of its distributional effects, or of its implications for indigenous participation in the economy. 'Regardless' is perhaps too strong a word. It is important to remember the broader context within which economic policies were formulated - in the mid 1960s there was still considerable optimism that aggregate economic growth would automatically generate broadly-based economic development in LDCs, while the implications of the distributional effects of particular growth patterns were not fully realised. There was a neat coincidence between what accepted economic doctrine seemed to recommend, and what was in Australia's interests.

In implementing its fiscal and economic policies, the Administration increased the costs, and reduced the benefits, of mineral development to indigenous people. It supported CRA's push for rapid development, and suppressed indigenous resistance with coercion and, occasionally, violence. It rejected the demands of Bougainville landowners for a share of copper revenues. It refused to allow landowners the opportunity to benefit financially from CRA's demand for land. In negotiating the Bougainville Copper Agreement it did little to ensure that indigenous participation in economic activity would be maximised.

103 For a discussion of changes in perception which occurred during the late 1960s and early 1970s regarding the relationship between aggregate economic growth, income distribution and the prospects for broadly-based economic development, see J. P. Grant, 'Development: The End of Trickle Down?', Foreign Policy, No. 12, (Fall 1973), pp. 43-65.
The Administration did not simply abandon the indigenous population to its fate; for many years its officials worked hard to protect the interests of villagers in the vicinity of the mine. But when the crunch came, its own interests and Papua New Guinea's perceived interests were paramount, and the contradiction inherent in its position became apparent on those occasions when years of hard work were destroyed in a matter of days, as happened at Rorovana.

In negotiating financial terms for development of the Panguna deposit, the Administration served neither its own interests nor those of Papua New Guinea; its failure to remedy, or take account of, its lack of information left it in a weak bargaining position. This failure was partly due to the level and type of expertise available to it, while the affinity of interests it felt with the foreign investor may also have played a part.

The impact of mineral development over the period 1964-1972 was primarily determined by the nature of Papua New Guinea's government rather than by the foreign character of mining investment.
Political developments 1969-1972

By April 1972 important political changes had occurred in Papua New Guinea. Throughout the 1960s it was generally assumed in Port Moresby and Canberra that Australia would not take the initiative in granting self-government or independence until requested to do so by Papua New Guinea's political leaders. However during these years indigenous politicians displayed little impatience to take up the reins of government.

In 1969 the leader of the Australian federal opposition, Mr Whitlam, made a number of statements which represented an important departure from the previously bipartisan policy. He stated that his Labor Party would grant immediate self-government if it won power in the 1972 elections, and would offer independence by 1976. Whitlam's commitment exerted considerable influence on Australian government policy, and in April 1971 the Minister for External Territories announced that a 'leadership group' would be chosen by the next House of Assembly. This group would exercise powers already delegated to Papua New Guinea and would negotiate self-government with Canberra.

The new House of Assembly was elected in March 1972. Its members were younger and better educated than their predecessors,

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who had usually shown deference to the Administration and accepted that Australian officials knew what was best for Papua New Guinea. The new House would be more critical of Administration policy, and this attitude would certainly extend to the Agreement. The coming to power in December 1972 of a Labor Party government in Australia meant that the House would soon be in a position to act as well as criticise.

It had been expected that the conservative United Party would win a majority in the House, but in fact the more radical Pangu Pati joined with a number of smaller groupings to form a coalition government in April 1972. Its Chief Minister was Mr Michael Somare and its Minister for Mines, Mr Paul Lapun.

Among the newly-elected members was a Bougainvillean priest, Fr John Momis, who was strongly critical of BCPL's activities and of the Agreement. On 27 September 1972 Momis introduced a motion which proposed that government policy towards foreign mining investment be based on certain principles. These dealt, among other things, with government equity participation in mining ventures, employment and training, generation of linkages, and taxation of mining company profits. But the principle of greatest immediate significance was that mining agreements 'should make provision for [their] re-negotiation in the light of changing circumstances and the acquisition of knowledge'.

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2 See, for example, the statements by Kaibelt Diria and Dirona Abe, TPNG House of Assembly Debates, 14 June 1966.

3 For the full text of the motion see PNG House of Assembly Debates, 16 November 1972.

4 ibid.
The motion generated the first comprehensive House of Assembly debate on mineral policy *per se*. Speakers dealt with each principle in detail, but it was on the possibility of renegotiation that debate centred.

The government's official position on this issue remained unclear. While Mr Somare stated that 'we are not questioning previous agreements with the Administration', Paul Lapun's view was that 'if at a later date the Government sees that the company is making colossal profits I think the Government should be able to renegotiate ...' The United Party opposition criticised suggestions of a renegotiation, arguing that the *Agreement* should be honoured regardless of whether it was a good one or not. An 'officially and legally signed contract' existed, and breach of that contract would destroy Papua New Guinea's 'good name' and its standing with the international financial community, deterring foreign investment in mining and other industries.

Despite these reservations the opposition gave its general support to the motion, which the House passed on 23 November 1972.

**Development strategies and the Bougainville Copper Agreement**

These political developments were accompanied by changes in the climate of opinion as to what constituted appropriate development strategies for Papua New Guinea. An important

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5 ibid.

6 See the statements by Ward, Neville and Mathias To Liman, *PNG House of Assembly Debates*, 16 November 1972.
milestone in this regard was the 1972 Faber Report. This rejected the basic assumption of the Administration's economic policies, i.e. that rapid monetary sector growth would automatically enhance the economic and social well-being of Papua New Guineans.

The evidence available in 1972 indicated that the economic situation of nationals was worsening in relative terms. While monetary sector product grew at an annual rate of 15.6 per cent over the period 1966-70, the share of monetary sector income accruing to the indigenous workforce fell from 36.0 per cent to 32.0 per cent.\(^7\) Increased reliance on foreign investment was partly responsible for this trend; the proportion of national income accruing to foreign companies increased from 5 per cent in 1967-68 to 16 per cent in 1971-72.\(^8\) Dependence on expatriate labour also played a part; the proportion of household income accruing to nationals fell from 79.5 per cent in the early 1960s to 63.4 per cent in 1970.\(^9\) Papua New Guineans were, of course, receiving a smaller slice of a substantially larger cake, but as the Faber Report pointed out any relative decline in indigenous incomes was likely to cause political and economic problems.\(^10\)


\(^9\) ibid.

\(^10\) Faber Report, p. 6.
Administration policy had other weaknesses. Concentration of resources in the most productive sectors of the economy offered no solution to, and probably accentuated, inequalities in regional income distribution. The rapid growth of the monetary economy was not matched in the subsistence sector; a rapidly-growing imbalance was emerging between the two sectors, an imbalance associated with substantial migration from rural to urban areas. Employment opportunities in the towns did not match the inflow of labour. According to one estimate, such opportunities grew at an annual rate of 9.6 per cent over the years 1966-71, while the urban population increased by 16.9 per cent per annum during the same period.

Clearly, economic growth per se did not guarantee a solution to Papua New Guinea's problem and might well add to them. The Faber Report set out to identify social, political, and economic priorities and to seek the type of investment and growth patterns most likely to facilitate their implementation. The priorities it identified were to increase indigenous control of the economy, expand opportunities for income-generating self-employment for indigenous people, increase income to nationals while avoiding large disparities in local income distribution, reduce dependence on foreign aid and enhance prospects for rural development. Regional

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11 It has been estimated, for example, that in 1970/1 the Island districts with 12.5 per cent of the population received 31.7 per cent of indigenous incomes, while the Highlands with 39.3 per cent of the population earned 26.7 per cent of such incomes. R.J. Moreland, Papua New Guinea: Politics, the Economy, Trade, Investment Opportunities, Economic Research Pty. Ltd., (Sydney, 1974), p. 69.


13 Faber Report, p. 4.
development and rural revitalisation were seen as indispensable if other policy aims were to be achieved. The urban cash economy could not grow quickly enough to supply sufficient employment for Papua New Guinea's expanding workforce, and so employment opportunities in rural areas would have to be enhanced. Rural development could be expected to increase indigenous incomes while reducing dependence on foreign aid and investment in the longer term, thereby increasing indigenous control of the economy.

The principal role of enclave projects would be to provide revenue which government would use to help poorer regions catch up on lost ground and generally to facilitate and encourage indigenous economic activity. Public expenditure would have to be increased rapidly for political as well as economic reasons. The newly-formed national government would have to display its ability to bring material benefits to its constituents if political stability was to be maintained and secessionist movements stemmed. Given this general approach, it was hardly surprising that the Faber Report should state that 'earlier and substantially greater contributions to public revenue should be obtained from the Bougainville project'.

Policies of the type advocated by the Faber Report were very much more attractive to the Papua New Guineans who were

14 Faber Report, p. 27.
15 Thus the Report advised that 'a high degree of preference should be assigned to benefits that will be experienced before mid 1978' (p. 15).
taking over power than a strategy which seemed to promise many of the rewards of economic development to foreigners while failing to deal with increasingly apparent economic and social problems. When Mr Somare's Cabinet outlined its policy priorities in December 1972, the emphasis was similar to the *Faber Report*’s: increased indigenous control of the economy, a more equal distribution of economic benefits, concentration on rural development, a more self-reliant economy, and an increased capacity to meet government expenditure from locally-raised revenue.\(^{17}\)

By 1972 two of the major assumptions which underlay the Australian Administration's negotiation of the *Agreement* were no longer valid. First, continued Australian subsidisation could not be guaranteed now that independence was at hand, and in any case the national government was anxious to avoid dependence on Australian aid. Secondly, it was felt that enclave projects would not directly create significant benefits for Papua New Guineans, and should therefore generate substantial government revenues at an early date.

**The background to renegotiation**

Throughout 1973 a number of politicians, particularly John Momis and Paul Lapun, continued to press for a critical reappraisal of the *Agreement*. Meanwhile support for such a move was growing among the staff which the Somare government had

recruited to replace Australian Administration officials, though a wide spectrum of opinion existed as to how, or to what extent, the Agreement should be altered. The two main strands of opinion consisted of those who wished to pressure Bougainville Copper Limited (BCL)\(^\text{18}\) into providing more revenue immediately without substantially changing the Agreement, and those who wanted a full-scale renegotiation of its terms.\(^\text{19}\)

In May 1973 the Finance Minister, Julius Chan, requested one of his staff, Ross Garnaut, to suggest a tax system that would 'take as much money as possible from (BCL) consistent with similar arrangements being applied to new mineral investments'.\(^\text{20}\) Garnaut prepared a proposal in conjunction with a University of Papua New Guinea (UPNG) economist, Anthony Clunies Ross.\(^\text{21}\) Their basic assumption was that host countries should obtain as high a proportion as possible of mining company profits after deduction of the company income which would correspond to the minimum return necessary to attract investment into new projects.\(^\text{22}\)

In designing a tax system for this purpose, two considerations would be particularly important. First, most host countries would not possess the information on

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\(^{18}\) In a corporate re-organisation effected in 1971, Bougainville Copper Pty. Limited (BCPL) became Bougainville Copper Ltd. (BCL).

\(^{19}\) Interview with former Secretary to the PNG Cabinet, Port Moresby, 11 June 1978.


\(^{22}\) In theory, the host country could confiscate 100 per cent of
production costs and product prices needed to permit an accurate forecast of project profitability. Thus a single appropriate tax rate could not be fixed in advance. Second, host country authorities would wish to ensure that investment in marginal deposits was not deterred while making certain that profitable projects would generate substantial government revenue.

Garnaut and Clunies Ross recommended use of a Resource Rent Tax (RRT), that is 'a profits tax that begins to be collected when a certain threshold rate of return on funds invested ... has been realised'. RRT would be collected at progressively higher rates as higher rates of return were realised. Under such a system, a company contemplating investment in what appeared to be a marginal project would know that little or no tax would be incurred until it had earned an 'appropriate' return. If the project was unexpectedly profitable, RRT would apply, ensuring that the government captured a large proportion of windfall profits.

Such a system would minimise the cost to government of its lack of information, since a single tax rate would not have to be set in advance. Neither would absence of such a tax create uncertainty for investors, since they could calculate precisely what tax levels would apply given various assumptions concerning costs and prices.

This discussion raises a number of important questions, particularly regarding the concept of an 'appropriate' return on surplus profits' without affecting mineral development, but in practice such action would remove the incentive for mining companies to operate efficiently, as after tax profits would remain unchanged for a very wide range of production costs.

investment, and these are dealt with below (see p.467-73). Of immediate interest is that application of RRT would necessitate a substantial renegotiation of the Agreement.

An alternative approach was advocated by Louis T. Wells, at the Harvard Business School, whom the government invited to examine the Agreement and recommend any changes he considered desirable. Wells advised a cautious approach. In his view, mining agreements in Papua New Guinea's immediate geographical area were less stringent than in other parts of the world, and so it would have to be careful not to price itself out of the market. Wells suggested that additional revenue could be obtained immediately by abolishing the tax exemption on 20 per cent of BCL's income and by beginning write-offs of capital expenditure during the first year of the tax holiday rather than at its completion. He opposed imposition on a profit-based tax in addition to standard corporation tax.

Throughout late 1973 political momentum in favour of renegotiation gathered force while the debate among proponents of the various strategies continued. BCL itself helped to decide the issue in early 1974 by announcing net profits for 1973 of A$158.4 million. The government would receive about A$29 million of this amount, mostly as dividends on the equity it had purchased, and from dividend withholding tax (introduced in the 1972 budget at a rate of 15 per cent) on dividends paid.

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24 Interview with Department of Finance official, Port Moresby, 8 June 1978.
to non-nationals. It found this situation completely unacceptable, and decided to proceed with a full-scale renegotiation of the Bougainville Copper Agreement.

BCL's public reaction to this decision was moderate. Its officials claimed that the terms of the Agreement were not inappropriate when they were negotiated, that similar terms would still have to be offered to attract capital into new mining projects, and that the Agreement was comparable to other agreements governing copper mines on the Western rim of the Pacific. They also argued that BCL should enjoy an adequate return for the considerable risk it had taken in developing Panguna. Nevertheless BCL agreed to negotiate. It had little choice. As its directors later explained, the Company only had two alternatives — to negotiate and obtain the best possible result, or to refuse to negotiate and take the risk that the government would unilaterally amend the Agreement.

Preparing for the renegotiation

The government devoted considerable effort to the task of preparing for negotiations. It already employed competent advisers on general economic and legal matters, and it now recruited specialised staff (usually on a short-term basis) in

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27 The government would receive A$16 million in dividends, A$9.5 million in dividend withholding tax, and about A$3.9 million in royalties.

28 Bougainville Copper Limited, Annual Report, 1973, p.4. [Unless otherwise stated, all references to Annual Reports in this Chapter are to those of Bougainville Copper Ltd.]; Rio Tinto Zinc Corporation, Press Release, 9 April 1973.

29 Bougainville Copper Limited, Letter to Shareholders, 29 November 1974.
those areas where it lacked expertise. Assistance was received from the Commonwealth Secretariat and the Intergovernmental Council of Copper Exporting Countries (CIPEC). Few of the individuals involved were to remain in Port Moresby throughout the negotiating process, but their presence was of considerable help to the government in formulating its negotiating position.  

Another important step was the establishment and maintenance of liaison between senior politicians and advisory staff. Mr Somare had earlier formed a ministerial committee to consider the whole question of renegotiation; staff members now reported to this committee regularly, and care was taken to keep it fully informed of all relevant developments. In addition, the renegotiation was periodically discussed by Cabinet, and the basic principles being applied were reaffirmed.  

The government was anxious that Bougainvillians should feel that they had been represented at the renegotiation, and that its position should not be weakened by conflict with the islanders. It therefore included John Momis and Leo Hannett (a prominent political figure on Bougainville and a founder-member of the secessionist movement) in the team which would handle the renegotiation.  

But perhaps the most important preparatory work was carried on as part of the general process of policy formulation undertaken between 1972 and 1974. The politicians and civil servants involved rejected many of the Administration's

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31 Interview with former Secretary to the PNG Cabinet, Port Moresby, 11 June 1978.
assumptions, and in doing so articulated the fundamental principles which would underlie their own approach. As part of this process, agreed priorities were established concerning the role which mining projects would be expected to play. Consequently the government knew exactly what it wanted (and was united in its commitment to obtain it) when negotiations commenced.

The broad policy aims of Mr Somare's government have been mentioned above. They dictated that 'the government should be in the business of rural development, not of mining', as one official expressed it.\(^\text{32}\) Consequently, its priority would be to maximise mineral revenues which could then be used to finance rural development; it would not demand increased ownership of BCL nor, with some exceptions, would it seek increased control over the Company's operations.

The government did not wish to increase its shareholding in BCL for a number of reasons. First, it believed that its limited administrative capacity should be used to foster rural development rather than to oversee a mining concern. Second, a substantial commitment of funds would be required,\(^\text{33}\) and it believed that investment in an already-operating mine would

\(^{32}\) Interview with Department of Finance official, Port Moresby, 7 June 1978. The discussion of government policy is based on this interview and on interviews with the following: Assistant Secretary, Office of Minerals and Energy, Port Moresby, 27 June 1978; Assistant Director, Central Planning Office, Port Moresby, 27 June 1978; former Secretary to the PNG Cabinet, Port Moresby, 11 June 1978; former Political Adviser to the Minister for Finance, Port Moresby, 8 June 1978.

\(^{33}\) Nationalisation without compensation was not considered, partly because the government did not believe that it possessed the administrative or technical skills to run a major mining concern, partly because of the adverse effects such action was
represent an inefficient use of Papua New Guinea's limited financial resources. In addition, it was felt that CRA and RTZ would have little incentive to commit their technical and financial resources to the Panguna project if the state substantially increased its shareholding. Increased state ownership was not seen as a prerequisite for capturing a higher share of BCL's profits; an efficient tax system would do this without involving the state in the expense (and the risk) of further equity investment.

The government believed that Papua New Guinea would not be disadvantaged if BCL retained complete control of many aspects of mining operations. For example, there was little concern with the Company's marketing practices, since it did not sell concentrates to affiliates and could therefore be expected to market its products at the highest available price. Neither was there any desire to influence corporate decisions affecting the labour intensity of mining operations. The government was not concerned with creating additional employment on Bougainville, since this could only lead to further immigration and increased social and political tensions. Nor did it wish to influence BCL's purchasing policies. It felt that the domestic economy was not in a position to supply the goods and services required, and that it was not part of its development strategy to help establish industries which would probably be uncompetitive in any case.³⁴

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³⁴ Any increase in BCL's costs would of course reduce profits and government revenues.
Underlying this relative disinterest in the direct economic impacts of mining (employment, linkages) was the belief that their effects would be geographically concentrated and that the type of development they would represent might frequently be undesirable. Mineral revenues, on the other hand, could be expended for the benefit of all Papua New Guineans and so as to foster the desired type of development.

In addition to the question of revenue generation, two other issues would receive attention. The government would wish to ensure that BCL's training and localisation policies would maximise indigenous participation in the Company's activities, and that the adverse environmental effects of the Panguna mine on surrounding rural areas be minimised.

Thus when negotiations commenced the government had identified a well-defined and limited range of issues on which its negotiators would concentrate their attention.

The conduct of negotiations

Negotiations took place over the period May to September 1974. BCL rejected the government's first proposal out of hand. The basic elements of this proposal were to be contained in the final settlement, and BCL's attitude at this stage apparently reflected its desire to test the government's determination.

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35 It was also felt that commitment of resources to development of linkage industries would further increase Papua New Guinea's dependence on the mining sector, thus increasing the adverse effects of fluctuating metal prices. Interview with Assistant Secretary, Office of Minerals and Energy, Port Moresby, 27 June 1978.

36 This was certainly how its attitude was interpreted by the government. Interview with Ross Garnaut, Canberra, 23 October 1979.
In June a second proposal was submitted to the Company, and it met this with a counterproposal which was discussed at a short meeting in Port Moresby. BCL's terms were rejected by government negotiators, who felt that the changes proposed were cosmetic in nature and were intended to present the Company as willing to compromise while leaving the division of profits essentially unchanged. The government was angered at what it saw as BCL's refusal to enter into serious negotiations, and it informed the Company that the Agreement would be amended by legislation if a satisfactory arrangement was not negotiated. Just before the Port Moresby meeting broke up, BCL submitted another proposal for consideration, and its terms made it clear that the Company was now ready to negotiate.

In August 1974 the main phase of negotiations began, and agreement was soon reached on a number of non-financial matters. The government was anxious to compile an environmental impact study of the Panguna project, and BCL agreed to assist in this work. The Company undertook to commission a pilot study which would examine the economic feasibility of smelting or refining copper concentrates in Papua New Guinea. BCL's localisation

37 Interview with Assistant Secretary, General Economic Policy Division, Department of Finance, Port Moresby, 6 June 1978.
38 Interview with Ross Garnaut, Canberra, 23 October 1979.
39 The amendments to the 1967 Agreement are contained in the Mining (Bougainville Copper Agreement) (Amendment) Act 1974, (Government Printer, Port Moresby, January 1975). The relevant clause is 16A.
40 ibid., Clause 16. If the results were favourable, BCL and the government would discuss the question of whether a full feasibility study was warranted.
and training policies were also discussed, and the government accepted that progress was generally satisfactory. The parties agreed to keep in close consultation on the matter and the government concluded that this, combined with its powers under generally applicable legislation, would allow it to exercise its influence whenever necessary.  

Agreement was not so easily achieved on financial matters. The government's demands were as follows: abolition of the tax exemption on 20 per cent of BLC's income; termination of the three-year tax exemption from 1 January 1974; withdrawal of accelerated depreciation allowances; and imposition on BCL's profits of corporation tax at the standard rate (then 33\$1\$ per cent) and of an Additional Profits Tax (APT) which would yield a total tax rate of 70 per cent on that portion of profits above a sum which would represent a return to BCL of 15 per cent on funds invested.

Financial terms were finally agreed upon in September after two protracted negotiating sessions. Previously much of the actual bargaining had been between advisory staff and executives of CRA and BCL, but by this stage the most senior personnel on both sides were involved. The Company team was led by Sir Val Duncan, the RTZ Chairman, and CRA's Chairman, Rod Carnegie. The Papua New Guinea team included Paul Lapun, Julius Chan (Minister for Finance), and Maori Kiki (Minister for Foreign Affairs), and was headed by Mr Somare during the second session.

At the first meeting, Duncan suggested that the government's proposals might be acceptable if it agreed to buy a further

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41 Interview with Ross Garnaut, Canberra, 23 October 1979.
50 per cent of BCL's equity (at a substantial premium above the market price), a proposal which the Papua New Guineans rejected. They saw it as a diversionary device whereby RTZ could take back with one hand what it had just conceded with the other.

The government team proceeded to negotiate on the basis of its own proposals, applying 'a carefully orchestrated approach', as one witness expressed it, with each member playing a particular role. Mr Somare explained what he saw as the political realities and stated that his government's position would be undermined if it did not obtain a more favourable agreement. Mr Chan outlined Papua New Guinea's financial situation and claimed that the country simply had to obtain additional revenue. Paul Lapun spoke in Pidgin of the costs which the mine had imposed on his people. Kiki took a very hard line throughout, demanding that all the government's requests be met and rejecting any compromise; thus he constantly reminded the Company of what it stood to lose if it refused to compromise.

This 'orchestrated approach' was apparently not planned; rather the roles of individual ministers emerged from the

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42 Duncan had already canvassed this idea in Canberra and suggested that the Australian government might provide a loan to Papua New Guinea with which to purchase the shares. He apparently attempted to persuade Mr Whitlam to exert pressure in Port Moresby on behalf of his plans. Whitlam refused on the grounds that the matter involved Papua New Guinea's internal affairs, and he simply informed Mr Somare of the nature of RTZ's suggestion. Interview with Ross Garnaut, Canberra, 23 October 1979.

43 Ibid.

44 Interview with former Secretary to the PNG Cabinet, Port Moresby, 11 June 1978.
interaction and discussion which occurred in numerous meetings of the ministerial committee and of Cabinet.\textsuperscript{45} It was certainly effective. Gradually the Company conceded on the major issues, abandoning its 'non-negotiable principles' one by one.\textsuperscript{46} It accepted the principle of APT, but Duncan fought long and hard to have BCL's 1974 earnings exempted from tax. Much was at stake here. BCL's first half operating profit amounted to $118 million, and under the proposed tax system the government would receive some $66 million of this.\textsuperscript{47} Finally, it was agreed that BCL's 1974 income would be liable to taxation, but an element of compromise was included in that first half profits would be taxed at a rate of only 44 per cent.\textsuperscript{48}

A number of additional points were also agreed upon. BCL could claim an increase in the return allowed on its funds before APT applied if 'abnormal conditions of inflation' occurred or if it was substantially disadvantaged by alignments

\textsuperscript{45} Interview with Ross Garnaut, Canberra, 23 October 1978.

\textsuperscript{46} Company negotiators had claimed there were certain 'principles' on which it could not compromise, for example non-retrospectivity of tax liability.

\textsuperscript{47} BCL would have been allowed to receive A$58 million net of corporation tax at the rate of 33\(\frac{1}{3}\) per cent before APT was charged. The figure of $66 million assumes that half of this amount would have been claimed in the first six months of 1974.

\textsuperscript{48} Tax would be applied at the higher of two rates, either 33\(\frac{1}{3}\) per cent or a rate expressed as

\[\frac{1}{3} + \frac{1}{2} \left(\frac{7}{10} - \frac{n}{2p}\right) - \frac{1}{3}\]

when \(n\) was equal to 32 million and \(p\) equalled taxable income. \(p\) was 118 million and the applicable tax rate 44 per cent (only operating income is considered here). \textit{Mining (Bougainville Copper Agreement (Amendment) Act}, Schedule, Part 11.
in currency conversion rates. It undertook to pay 50 cents per tonne of copper sold into a Non-Renewable Resources Fund which would be expended for the benefit of Bougainvillians. Finally, the two parties agreed to meet in 1981 and every seven years thereafter to review the operation of the Agreement.

The renegotiation in itself had little effect on the status of Bougainvillians in relation to BCL's operations, though they would receive some additional financial benefit from the Non-Renewable Resources Fund, while the involvement of Momis and Hannett in the negotiating team was a recognition of their special interest in the outcome. However, during the following two years the situation was to change quite dramatically. In December 1974 the national government agreed that all mineral royalties from Panguna should flow to Bougainville. In 1974-76 a provisional government was established on the Island and this very much increased Bougainvillian participation in decisions affecting the mine. The provincial government is consulted both by BCL and by Port Moresby regarding all major relevant policy initiatives, and it will effectively have a power of veto over any new mineral developments on Bougainville.

49 ibid., Clause 7i and 7j.
50 ibid., Clause 16B.
51 ibid., Clause 26A.
52 The landowners involved would continue to receive 5 per cent of royalties, while the provincial government would receive the remainder.
53 Interview with provincial government official, Arawa, 20 June 1978; interview with Assistant Secretary, Office of Minerals and Energy, Port Moresby, 27 June 1978.
Assessing the 1974 Agreement

The 1974 Agreement embodied nearly all the government's objectives; the only substantial concession it made was to modify its demands concerning BCL's tax liability for 1974, by about A$14 million. What accounts for its success?

The manner in which the government prepared for negotiations was clearly very important, particularly in that it identified limited and specific objectives. This placed it in a strong bargaining position as it could immediately reject any proposal which did not accord with its aims, and its own proposals would again become the basis for negotiations. This was illustrated, for example, when the Company suggested that Papua New Guinea buy a majority shareholding in BCL. The government had already excluded this alternative, and could therefore swing negotiations back to the question of tax revenue.

The liaison which existed between advisory staff and senior politicians was also of considerable importance. Over a period of time, these politicians were 'educated' as to the issues involved by their advisers, and a feeling of trust and mutual confidence developed between the two groups. When the important final negotiating sessions occurred, the politicians were well informed and working closely with the advisory staff, and so could throw all their weight behind the negotiating

54 C.J. Lipton has pointed out the advantage which can accrue to a negotiating team if it can make its proposals the basis of discussion. 'Government Negotiating Techniques and Strategies', in United Nations, op.cit., p.104.
The personal qualities of the individuals concerned also contributed to a successful outcome. The Advisory staff were technically competent in their particular fields and also displayed a keen tactical sense, a quality apparently scarce among many groups of this kind.

The quality of political leadership was also high. Unity was maintained throughout, and no ambiguity existed as to the commitment of any minister to the pursuit of Papua New Guinea's interests. The politicians most directly involved were, as

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55 The closeness of this liaison resulted from a number of factors. Realising the importance of renegotiation, Mr Somare chose advisers who were already regarded as politically trustworthy. There was an overlap of personnel between the two groups in that certain of the advisory staff (Fr John Momis, John Kaputin) were also politicians. In addition, the civil servants among the advisory staff reported directly to the ministerial committee, rather than through normal bureaucratic channels. The newness of the bureaucracy in Port Moresby facilitated this arrangement since rigid reporting procedures had not yet developed.

56 Their treatment of Sir Val Duncan, the RTZ Chairman, is illustrative in this regard. Duncan made a practice of dealing with the countries in which RTZ operated at the prime ministerial level only, and on his arrival in Port Moresby he asked to see Mr Somare, a request the Prime Minister refused. Duncan persisted, but officials and ministers ensured that there was always some obstacle to a meeting, and the two men did not come face to face until the final negotiating session. This action apparently dealt a considerable blow to Duncan's confidence, and also informed him in no uncertain terms that the PNG government could not be treated lightly.

57 This is the view of at least one person with wide experience of negotiating situations. Interview with Anthony Martin, former East African Correspondent for the Financial Times, Port Moresby, 9 June 1978.
a number of their advisers have attested, open-minded, willing to listen to advice and rational argument, and ready to try alternatives which did not correspond to the conventional wisdom on relevant issues.

Many of the factors discussed above could not have applied had the general context of policy-making in Port Moresby not been characterised by a high degree of rationality. A wide range of alternatives was usually considered in each policy area, their implications were discussed and analysed, and choices were then made on the basis of Papua New Guinea's perceived interests. It was this climate which allowed the government team to make its preparations and which ensured that it enjoyed enthusiastic political support for its negotiating effort.

A number of factors underlay this climate of decision-making. The politicians involved felt that their actions would have a major impact on Papua New Guinea's history, and that a rigorous standard of decision-making should therefore be applied. Political development in Papua New Guinea was not far advanced, and consequently few organised pressure groups were attempting to influence decision-makers. In this context, a point of particular relevance was the absence of domestic groups with a vested interest in protecting BCL's profitability.

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58 Interview with former Secretary to the PNG Cabinet, Port Moresby, 11 June 1978; interview with former Political Adviser to the Minister for Finance, Port Moresby, 8 June 1978.

59 Initially it was feared that the Papua New Guineans who became shareholders in BCL when it issued one million shares to Territory residents in 1971 might mobilise political opposition to renegotiation, but this fear proved to be groundless. Interview with former Political Adviser to the Minister for Finance, Port Moresby, 8 June 1978.
Since the bureaucracy in Port Moresby was new, neither had vested bureaucratic interests emerged. Unlike many colonial regimes, Australia did not create a bitter legacy of racial antagonism, and foreign companies could be objectively assessed in the light of their contribution to Papua New Guinea rather than condemned out of hand as agents of continued racial exploitation.

The attitude and actions of BCL/CRA/RTZ also played an important role in determining the outcome of events. It is difficult to discuss the negotiations from their perspective because company officials are very reluctant to discuss the subject. What is certain is that BCL did not attempt to undermine the government's political position (as Tara Mines Limited did in Ireland, for example), or to mobilise external forces in support of its own position.\(^{60}\) If BCL had acted otherwise, it might of course have placed a A$500 million investment in jeopardy, and this may partly explain its cautious approach.

Because of this approach, BCL would exercise whatever bargaining powers it possessed in the negotiating room and not outside it. Those powers were limited by a number of important constraints. First, the government possessed an ultimate sanction: if necessary, it could simply legislate to obtain

\(^{60}\) The only exception was Sir Val Duncan's unsuccessful attempt to enlist Mr Whitlam's help. In other instances, mining companies have obtained the support of international lending and other agencies in their relations with host country governments. See T.H. Moran, 'Transnational Strategies of Protection and Defense by Multinational Corporations', *International Organisation*, Vol. 27, No.2, (Spring 1973), pp. 273-87.
the desired outcome. Second, BCL could not credibly threaten to abandon a A$500 million investment while the government allowed it to receive a reasonable return on that investment. BCL could only argue for as generous an interpretation as possible of the term 'reasonable'.

While it is clear that the government obtained most of what it sought, the question remains as to whether its demands corresponded to what it would have achieved through exercise of its full bargaining potential. It is important to remember that the terms negotiated with BCL had to be 'consistent with similar arrangements being applied to new mineral investments'. The government was concerned not only to obtain higher returns from Panguna, but also to ensure that other known deposits (particularly the Ok Tedi and Frieda River copper/gold prospects) would be developed, and that exploration would not be discouraged. In theory, it could have imposed stringent conditions on BCL and offered more generous terms to new mines. However, prospective investors would expect to have conditions similar to those negotiated with BCL applied to themselves when and if their mines became profitable, and would evaluate investment opportunities accordingly. Thus the 1974 Agreement must be assessed within the context of Papua New Guinea's mineral taxation system as a whole.

The basic principle of that system is that when 'returns to investment are well in excess of the reasonable return that is necessary to induce a decision to invest, a high proportion of the additional profits will be passed to the people ...

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61 Papua New Guinea did not then have a written constitution, and was governed by ordinances and orders-in-council which could be amended by Parliament.
through taxation’. Though this principle seems appropriate, two practical questions arise. How is the concept of a 'reasonable' rate of return defined, and what are the implications of applying a single rate of return to all projects or prospective projects?

To date, the government has applied the concept of a 'reasonable' or 'appropriate' rate of return to the Bougainville mine, and to the Ok Tedi copper/gold prospect. In BCL's case, a great deal was known about the scale of investment, production and other costs, and profitability. This knowledge allowed the government to designate a rate of return which ensures that the tax burden is light when profits are low, and that tax payments are substantial when profits are high. Over the period 1975-78, when BCL's markets were depressed, the effective corporate tax rate averaged 31 per cent. In 1979, large increases in gold prices boosted profits, and the effective rate rose to 48 per cent.

The Ok Tedi deposit, situated in the Western Province, was discovered by the US-based Kennecott corporation in 1967. Kennecott carried out preliminary exploration work over the next five years, but it was 1975 before serious negotiations were undertaken regarding terms for further exploration and development. The Company asked that a very high rate of return be allowed in calculating its liability to APT, making it

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63 Derived from Table 19 below.

64 Derived from Annual Report, 1979, p. 20.
unlikely that it would ever pay the tax. Kennecott was in fact reluctant to invest in Papua New Guinea for reasons of corporate strategy, and the government concluded that Ok Tedi would attract investment from other companies under less generous conditions. Thus when Kennecott turned down its terms the government refused to renew the Company's prospecting authority. It established a state concern, the Ok Tedi Development Corporation, to take over the work at Ok Tedi; a firm of geological consultants was employed to carry out a drilling programme, and by mid 1975 ore reserves had been added to substantially.

The government in the meantime discussed its proposals for development of the deposit with six separate groups, which included many of the world's largest base metal mining companies, and this, combined with the technical information obtained through its direct involvement in Ok Tedi, allowed it to form a clear idea of the level at which it could pitch its demands.

In 1976 a consortium of Australian, American and German companies undertook to conduct a feasibility study of the project. Terms were concluded for any subsequent development,

65 Kennecott asked for a return of 20 per cent on funds employed in real terms; government officials believed that very few mining projects were currently earning a return of this size. Interview with Assistant Secretary, General Policy Division, Department of Finance, Port Moresby, 8 June 1978.

66 Kennecott had recently been expropriated in Chile, and was reluctant to make a substantial investment in a developing country. In addition, it had decided that in future it would expand its operations by taking over existing mining concerns rather than by developing 'grass roots' projects.

67 Interview with Assistant Secretary, General Policy Division, Department of Finance, Port Moresby, 8 June 1978.
though the consortium could withdraw within a given time period. (In the event, it decided to proceed). The relevant provisions were contained in the Mining (Ok Tedi Agreement) Act 1978.

The State would be offered a 20 per cent shareholding in the project, at par. The government would reimburse Kennecott for its exploration expenditure (between K12 million and K15 million), but this amount would be credited towards its purchase of shares (Clause 11). 68

The standard rate of corporation tax would be charged, though with an upper limit of 35 per cent during the Investment Recovery Period (that period between commencement of commercial production and the date at which the sum of post-tax profits plus depreciation allowances exceeds total investment at the commencement date) (Clause 23.1, 23.2). During the Investment Recovery Period, accelerated depreciation would be available in each year to the extent that would be necessary to allow Cash Flow (after-tax profits plus depreciation allowances) to equal 25 per cent of Initial Capital Expenditure (defined below), 69 or to reduce taxable income to zero, whichever limit

68 The value of Kennecott's compensation was nominal: it would receive bonds for the relevant amount, redeemable after 15 years, or some 25 years after the exploration expenditure had actually been incurred. The consortium was anxious that some recognition be given to Kennecott's role in discovering the deposit, but was not over-concerned with its plight. Interview with Assistant Secretary, General Policy Division, Department of Finance, Port Moresby, 8 June 1978.

69 Initial capital expenditure is defined as 'Total Investment to the end of the Tax Year for which additional deductions are sought or to the end of the fourth year after Commencement of Commercial Production, whichever is the earlier, less Replacement Expenditure to the end of the Tax Year for which additional deductions are sought or to the end of the fourth year after Commencement of Commercial Production whichever is earlier'. (Clause 23.5).
would give rise to the lower amount of deductions (Clause 23.5).

Royalties would be payable at the rate of \( \frac{1}{4} \) per cent of the f.o.b. value of mineral sales (Clause 24), and dividend withholding tax would be applied at a rate of 15 per cent to dividends payable to non-nationals (Clause 23.9).

Additional Profits Tax (APT) would be calculated in the following manner. Net Cash Receipts (defined below)\(^{70}\) would be accumulated from the commencement of construction at a designated interest rate (either 20 per cent or 10 percentage points above prime corporate borrowing rates in the United States). APT would become payable when the accumulated value of Net Cash Receipts was positive, in other words when the initial investment with compound interest at the designated rate had been recovered. Positive accumulated value would be taxed only once: it would be set at zero following any year for which APT was payable. If Net Cash Receipts were negative in any year for which APT was payable, APT would not again be charged until the 'loss' had been recouped at the designated interest rate (Clause 23).

APT would be calculated according to the formula

\[
APT = A \times (70\% - T),
\]

where \( A \) equals accumulated value of Net Cash Receipts in the current tax year and \( T \) equals the standard income tax rate (currently \( 36\frac{1}{2} \) per cent) (Clause 23).

\(^{70}'\text{Net Cash Receipts}'\) means the result (which may be negative) in any Tax Year of the sum of all income from mineral sales and other receipts (but excluding any interest which accrues to the company), less the sum of all capital and operating expenditures incurred in that Tax Year (excluding interest payments) and the amount of income tax paid by the company in that Tax Year (Clause 23.1).
It is not possible to predict what the rate of APT will be in particular situations. Application of the formula to BCL's operations in 1979 would have resulted in a rate equal to 24 per cent of pre-tax profits,\textsuperscript{71} giving a total tax rate of $60\frac{1}{2}$ per cent.

These terms, which now form the basis of general tax legislation, appear to strike a reasonable balance between the need to attract investment, to ensure that government receives a substantial return from profitable projects, and to encourage efficient mineral exploitation. The effect of the arrangement is to lighten the tax burden until such time as initial investment and a return on it is recouped; this is particularly so as regards marginal mines, which would enjoy the benefit of accelerated depreciation allowances. It thus facilitates rapid recovery of the initial investment and, in combination with the provision permitting carry-forward of losses in assessment of APT, significantly reduces the risk that application of taxation will result in a mineral investment incurring loss. Both factors are of course very important from the perspective of a potential investor.

On the other hand, the application of APT to all profits after the investment has been recovered, the charging of royalties and dividend withholding tax, and the absence of accelerated depreciation allowances for non-marginal mines means that profitable operations will quickly yield a

\textsuperscript{71} Assessable receipts were K343,251,000, operating and capital expenditure K168,924,000, and corporation tax K56,698,000. K117,029,000 would have been liable to APT, yielding revenue of K39,205,000 or 24 per cent of ore-tax profits. Derived from BCL, _Annual Report_, 1979.
substantial return to government. Yet the marginal tax rate is not so high as to remove the incentive for efficient mineral exploitation, while the low level of royalties means that their application is unlikely to significantly distort production decisions.

While the taxation framework is generally appropriate, the question arises as to whether a single rate of return should be applied to all mineral developments. The government will hardly be as well informed about other projects as it was about Panguna and Ok Tedi. Its experience to date has supplied it with information as to general factors influencing the supply price of investment to large mineral resource projects in Papua New Guinea. But is it not possible that other developments will be substantially different in character and will require application of a different rate of return if they are not to be rendered sub-marginal, or if economic rents are not to escape taxation?

Superficially, negotiation of a separate rate of return for each project might allow government to avoid this danger, since the characteristics of individual deposits could then be taken into account. But this alternative would face the government with precisely the problem it is seeking to avoid, since it would probably lack information regarding those characteristics. It would be faced with demands for concessions without which 'marginal' prospects could supposedly not be developed, as happened to the Australian Administration in 1967. There are other objections to such an approach. It would impose a heavy burden on the country's limited administrative resources, and might deter mineral exploration as companies would not know
in advance the conditions under which any discoveries would be developed.

Thus Papua New Guinea's taxation system is appropriate in terms both of general efficiency criteria and of the country's particular circumstances.

It is also necessary to assess Papua New Guinea's broader mineral development strategy, based on the concept of maximising mineral revenues for use in rural development. In the following sections the economic and other effects of the Bougainville mine are analysed, and this should provide evidence on which to base a judgement. At times use is made of financial data relating to BCL, and the relevant information is presented in Table 18.

**Generation of Government Revenue**

Table 19 gives details of the revenue generated by BCL over the period 1972-79, broken down into its various components. Income taxes (corporate income tax, dividend withholding tax) represented by far the most significant source of revenue, accounting for K254.8 million or 65 per cent of the total. Royalties (K22.1 million) and Group Tax (K25.8 million over the period 1972-78) were also important. Dividend income should be treated separately, since it results from an investment by government of K25 million. It amounted to K72.1 million, indicating a net return of K47.1 million.

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72 A new currency, the Kina (K) was established in 1975; initially one Kina equalled one Australian dollar.

73 This does not take account of interest payments on loans raised by the Administration to finance its purchase of equity.
### Financial Statistics, Bougainville Copper Limited, 1972-1978 (K'000's)

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<td>249,048</td>
<td>279,825</td>
<td>184,754</td>
<td>205,349</td>
<td>200,578</td>
<td>223,282</td>
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<td>Other Income</td>
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<td>2,925</td>
<td>13,890</td>
<td>8,628</td>
<td>3,097</td>
<td>2,513</td>
<td>1,864</td>
<td>33,075</td>
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<td>Exchange Gains on Loan Repayments</td>
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<td>13,828</td>
<td>8,245</td>
<td>1,981</td>
<td>1,601</td>
<td>2,177</td>
<td>10,295**</td>
<td>38,127</td>
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95,853 265,801 301,960 195,363 210,047 205,268 235,441 1,509,733

Less

| Cost of Sales and Other Costs | 39,010 | 61,949 | 75,770 | 93,440 | 103,636 | 112,656 | 116,118 | 602,579 |
| Interest Payments | 13,443*** | 17,493 | 13,205 | 11,469 | 11,060 | 11,661 | 6,093 | 84,424 |
| Depreciation and Amortization | 14,520 | 24,831 | 28,453 | 29,591 | 31,103 | 36,203 | 40,425 | 205,126 |
| Royalties | 1,202 | 3,118 | 3,487 | 2,309 | 2,578 | 2,490 | 2,790 | 17,974 |

Taxable Income | 27,678 | 158,410 | 181,045 | 58,554 | 61,670 | 42,258 | 70,015 | 599,630 |

Current Taxation | - | - | 63,159+ | - | 15,666 | 20,303 | 13,724 | 22,000 | 134,852 |

Net Earnings | 27,678 | 158,410 | 117,886+ | 42,888+ | 41,367 | 28,534 | 48,015 | 464,778 |

Dividends Paid | 11,000 | 81,400 | 73,528 | 26,738 | 26,738 | 21,390 | 40,106 | 280,900 |

Capital Expenditure | 36,300++ | 17,900 | 10,830 | 23,862 | 36,176 | 39,695 | 30,300 | 195,063 |

Loan Repayments | - | 68,002 | 36,904 | 18,462 | 19,544 | 25,635 | 64,600 | 233,147 |

Source: Bougainville Copper Ltd., Annual Reports, 1973 - 1978; information supplied by BCL.

Notes: * Production commenced on 1 April 1972.

** Until 1977 BCL's Annual Reports stated exchange gains on loan repayments as a separate item while exchange gains/losses on conversion of cash balances were included under the heading of Other Income. In 1978 a single heading, Net Exchange Gains/Losses, covered both items.

*** Interest payments in 1972 totalled K22,562,000 but of this amount K9,119,000 was capitalised and will have been amortized over the following years.

+ In its Accounts for 1974 BCL made an overprovision for taxation of K3,311,000, and this amount was added back to Net Earnings in the 1975 Accounts. These figures reflect the true tax situation.

++ The figures for capital expenditure correspond to the item 'Expenditure on Fixed Assets' in BCL's Annual Reports. A part of expenditure in 1972 was associated with preproduction activity and was financed from initial loan capital.
## Table 19

### Government Revenue Generated by BCL, 1970-1979 (K million)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income Tax</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>63.2</td>
<td>15.7</td>
<td>20.3</td>
<td>13.7</td>
<td>22.0</td>
<td>77.9</td>
<td>212.8</td>
</tr>
<tr>
<td><strong>Dividend Withholding Tax</strong></td>
<td>-</td>
<td>-</td>
<td>1.3</td>
<td>9.4</td>
<td>8.8</td>
<td>3.1</td>
<td>3.1</td>
<td>2.5</td>
<td>4.8</td>
<td>9.0</td>
<td>42.0</td>
</tr>
<tr>
<td><strong>Royalties</strong></td>
<td>-</td>
<td>-</td>
<td>1.0</td>
<td>2.9</td>
<td>3.8</td>
<td>2.2</td>
<td>2.6</td>
<td>2.5</td>
<td>2.8</td>
<td>4.3</td>
<td>22.1</td>
</tr>
<tr>
<td><strong>Group Tax</strong></td>
<td>0.2</td>
<td>0.3</td>
<td>1.1</td>
<td>1.9</td>
<td>2.4</td>
<td>3.7</td>
<td>5.3</td>
<td>5.4</td>
<td>5.5</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Customs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duties</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
<td>1.1</td>
<td>0.9</td>
<td>1.9</td>
<td>1.6</td>
<td>2.3</td>
<td>2.2</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Dividends</strong></td>
<td>-</td>
<td>-</td>
<td>2.2</td>
<td>16.3</td>
<td>14.7</td>
<td>5.3</td>
<td>5.3</td>
<td>4.3</td>
<td>8.0</td>
<td>16.0</td>
<td>72.1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>0.2</td>
<td>0.3</td>
<td>5.8</td>
<td>31.6</td>
<td>93.8</td>
<td>31.9</td>
<td>38.2</td>
<td>30.7</td>
<td>45.3</td>
<td>116.0</td>
<td>393.8</td>
</tr>
</tbody>
</table>

**Source:** Information provided by BCL

**Notes:**
+ Tax revenue is attributed to the year in which the relevant income was earned.

++ Slight discrepancies exist between these figures and the royalty figures in Table 12. The latter describes provisions for royalty payments while those above reflect actual payments.

n.a. Information not available.
BCL's contribution to total government revenue is substantial, though its significance varies considerably over short-time periods, mainly as a result of fluctuating metal prices. In 1974/5, for example, total internal revenue was K180 million, while receipts from BCL were K94 million in 1974; in 1975/6, revenue was K219 million, while receipts from BCL were only K32 million in 1975. In 1979/80, the Company will again make a very significant contribution to total revenue. Fluctuations in BCL's tax payments do not have an equivalent effect on funds available to government, because a portion of revenues is retained in a Mineral Resources Stabilization Fund in years of high profit, and utilised when profits are low.74

Has BCL engaged in transfer pricing? The Company sells its output on an 'arms length' basis, and so any profit transfer would result from over-charging for goods or services provided by affiliates.

CRA provides a number of services to BCL, some directly and some through a wholly-owned subsidiary, MINENCO. A range of managerial, technical, and informational services is provided by CRA itself, for which it receives management fees based on the volume of work undertaken (rather than on a percentage of sales, for example). These fees do not appear excessive given the depth of CRA's involvement: from 1974 to 1978, for instance, they averaged K680,000 per annum.75

75 Information supplied by BCL.
MINENCO carries out design and construction activities for BCL, on an 'arms length' basis according to BCL's management, but provincial government officials suspect that MINENCO is used to channel profits out of Papua New Guinea. This is very unlikely. MINENCO's profits are modest, amounting to A$202,000 in 1976 and A$925,000 in 1977, for example. Since MINENCO carries out work for other companies and since it would earn 'legitimate' profits on arms length trading with BCL, any element of hidden profit transfer would be insignificant. It seems certain that BCL/CRA would not risk incurring government displeasure for such paltry returns.

Generation of employment and wage payments

Table 20 gives details of national and expatriate employment over the period 1972-79. Expatriate employment fell substantially in 1976/7 as certain skilled positions were taken over by nationals, but has since remained constant at around 850.

BCL's operations have also created significant indirect employment on Bougainville. Employment in factory operations increased by over 900 between 1968/9 and 1974/5, while the public sector staff requirement specifically created by the

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76 Interview with BCL's Executive Manager - Commercial, Panguna, 16 June 1978.
77 Interview with provincial government official, Awa, 20 June 1978.
79 ibid., p.23.
### Table 20

**Direct Employment Generated by BCL, 1972-1979**

<table>
<thead>
<tr>
<th></th>
<th>Nationals</th>
<th>Expatriates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>2,590</td>
<td>878</td>
<td>3,468</td>
</tr>
<tr>
<td>1973</td>
<td>2,915</td>
<td>929</td>
<td>3,844</td>
</tr>
<tr>
<td>1974</td>
<td>3,238</td>
<td>983</td>
<td>4,221</td>
</tr>
<tr>
<td>1975</td>
<td>3,094</td>
<td>942</td>
<td>4,036</td>
</tr>
<tr>
<td>1976</td>
<td>2,989</td>
<td>858</td>
<td>3,847</td>
</tr>
<tr>
<td>1977</td>
<td>3,063</td>
<td>853</td>
<td>3,916</td>
</tr>
<tr>
<td>1978</td>
<td>3,243</td>
<td>855</td>
<td>4,098</td>
</tr>
<tr>
<td>1979</td>
<td>3,314</td>
<td>851</td>
<td>4,165</td>
</tr>
</tbody>
</table>

Source: Information supplied by BCL

### Table 21

**BCL's Expenditure on National and Expatriate Wages and Salaries, 1969/1972 - 1978. (k million)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nationals (A)</td>
<td>19.0</td>
<td>5.4</td>
<td>6.7</td>
<td>11.1</td>
<td>12.9</td>
<td>13.6</td>
<td>14.1</td>
<td>82.8</td>
</tr>
<tr>
<td>Expatriates (B)</td>
<td>61.0</td>
<td>10.7</td>
<td>13.3</td>
<td>14.1</td>
<td>16.4</td>
<td>17.3</td>
<td>16.9</td>
<td>149.7</td>
</tr>
<tr>
<td>Total</td>
<td>80.0</td>
<td>16.1</td>
<td>20.0</td>
<td>25.2</td>
<td>29.3</td>
<td>30.9</td>
<td>31.0</td>
<td>232.5</td>
</tr>
</tbody>
</table>

Ratio of Average Expatriate to Average National Wages

|       | n.a. | 6.2 | 6.5 | 4.2 | 4.4 | 4.6 | 4.5 | 5.1 |

Source: Information provided by BCL; Table 20.

Notes: * Much of this expenditure was actually made by BCL's contractors. n.a. Not available.
copper project was apparently in excess of 1,000.\textsuperscript{80} The majority of BCL's domestic purchases of goods and services are made on Bougainville, and it is consequently unlikely that significant indirect employment has been created outside the region.

The labour employed by BCL has been withdrawn from other uses, usually from agricultural production,\textsuperscript{81} and thus some opportunity costs have been incurred. However, the willingness of the individuals involved to accept wage employment indicates that the change of occupation has enabled them to increase their net incomes.

Table 21 provides details of wage and salary payments by BCL, which have totalled K232.5 million over the period 1969-78. A disproportionate share of these payments has accrued to expatriates who have filled the most highly-skilled (and highly paid) positions; in 1973, for example, the ratio of average expatriate to average national incomes was 6.2. This ratio declined to 4.4 in 1976 as localisation proceeded, but has since remained unchanged, reflecting the constant level of expatriate employment.

Payment of occupation fees and compensation payments

Occupation fees have been received by villagers whose land is used for mining or ancillary activities, while

\textsuperscript{80} M.L. Treadgold, \textit{The Regional Economy of Bougainville}, p.25, Table 5, p. 27.

\textsuperscript{81} Some labour was drawn from among the unemployed in Port Moresby, but their withdrawal from the job market apparently induced migration of an equivalent number of job seekers from rural areas to Port Moresby, as the city's unemployment rate remained constant during the period under review. Interview
compensation payments have been made to individuals and villages in lieu of crop and other damage caused by such activities. Over the period 1968-74, some 1,500 individuals from 62 villages in South-Central Bougainville received a total of K1.8 million from these sources, but only a small percentage of those people receive a regular income from BCL. From 1975 to 1978, BCL expended a further K3.3 million on compensation, occupation fees, and village relocation.

It is difficult to analyse the indirect economic impact of these incomes since little is known about how they are spent. Villagers who have lost garden land clearly purchase food, much of it imported, but substantially larger amounts have apparently been spent on motor vehicles. Little of the money has found its way into business ventures which might provide villagers and their children with an alternative source of future income. As far as could be established only one significant venture (a taxi firm) has been funded from compensation payments. However a substantial proportion of

with Ross Garnaut, Canberra, 6 June 1980.

82 Individual payments varied greatly, but about 60 per cent were under K100 while 10 per cent were above K1,000. A. Mamak and R. Bedford, *Compensating for Development*, p. 58.

83 ibid., p. 63.

84 Information supplied by BCL. Relocation work was largely completed by 1974 and so this item probably accounts for only a small proportion of the total.

85 A. Mamak and R. Beford, *Compensating for Development*, p. 86.
such payments have apparently been saved, and if this venture is successful other enterprises may be established.

Creation of additional economic activity through linkage development

*Backward Linkage:* BCL purchases only a small proportion of its goods and services in Papua New Guinea, and consequently backward linkage has generally been weak. Local purchases of industrial goods are practically non-existent, for two reasons. First, Papua New Guinea does not produce many of the inputs used by BCL (for example mining equipment, fuel oil, tyres, chemicals). Second, local businesses which might supply BCL are usually structured to sell small quantities of goods at high profit margins on the domestic market. They can rarely match the extremely competitive prices which foreign producers offer BCL on large bulk orders. However BCL believes that individual domestic firms have the potential to compete successfully. The Company's expenditures do support some local service industries, for example motor repairs, electrical equipment repairs, and trucking.

BCL's purchases of agricultural goods have had a major impact on Bougainville. Particularly important are purchases

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86 ibid., p. 87.
87 Interview with BCL's Chief Purchasing Officer, Panguna, 15 June 1978.
88 Two specific areas mentioned were timber and wood products, and printing. Interview with BCL's Chief Purchasing Officer, Panguna, 15 June 1978.
89 Service industries of this type account for much of the increase in factory employment noted above.
of fruit and vegetables, which averaged some K250,000 per annum in 1976-78; in addition, about K100,000 is spent annually on fish and poultry.\textsuperscript{90} It has been estimated that vegetable farming provides villagers with incomes which are from 35 to 200 per cent above those from other cash crops, depending on the intensity of farming and the crop used as a basis of comparison.\textsuperscript{91}

Considerable scope apparently exists for expanding domestic purchases of agricultural goods, for example fish, poultry, and particularly beef. BCL does buy beef from mainland areas, but its demand far exceeds the available supply. Some fish is supplied by small-scale operators, but facilities to catch, store and transport fish in large quantities are not available locally.\textsuperscript{92}

Clearly some opportunities exist for expanding backward linkage; the obstacles to their development do not arise from any reluctance on BCL's part to purchase locally, but rather from bottlenecks in supply. The Company has contributed substantially to the removal of supply bottlenecks on Bougainville. It set up Panguna Development Pty. Ltd. to assist in the establishment of large-scale enterprises, and formed a Business Advisory Service which has helped set up small-scale trucking, sawmilling and fishing businesses.\textsuperscript{93}

\textsuperscript{90}Information supplied by BCL.


\textsuperscript{92}Interview with BCL's Catering Manager, Panguna, 19 June 1978.

\textsuperscript{93}W.D. Scott and Company Pty. Ltd., \textit{op.cit.}, 3/56, 3/59.
It also sponsors agricultural extension officers who advise villagers on animal husbandry and cash-crop farming. Action is required on a national basis if opportunities for cattle-raising and fishing are to be fully exploited, and it can only be taken as part of a broader government strategy aimed at enhancing Papua New Guinea's self-sufficiency in food production.

**Forward Linkage:** Since BCL's exports are entirely in concentrate form, forward linkage is absent. The national government has not yet decided whether it wishes to have mineral processing conducted locally. It is concerned with the environmental impact, suspects that little additional government revenue would be generated, and realises that incomes accruing to nationals would not be substantial because of the high capital intensity of mineral processing and because much of the necessary capital, equipment, operational stores and skilled labour would be imported. It is currently gathering additional information on the matter.

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95 Food represents a major import item for PNG, amounting to 20 per cent of total imports in 1975. The national government is engaged in a programme of import substitution in this area, and considerable emphasis has been placed on expansion of livestock production.

96 Interview with Assistant Secretary, General Economic Policy Division, Department of Finance, Port Moresby, 8 June 1978; interview with Assistant Secretary, Office of Minerals and Energy, Port Moresby, 27 June 1978. Also relevant are the prospects for hydro-electric power generation on the Purari river and for development of additional copper-mining capacity.
In 1975 BCL fulfilled its commitment under the 1974 Agreement, commissioning Bechtel Corporation to examine the feasibility of constructing a smelter. Bechtel concluded that the project would be uneconomic; its findings were updated in 1977, and the outcome was even more unfavourable. BCL does not want to construct a smelter for reasons not directly related to the financial viability of such an undertaking. It is reluctant to make an investment on the scale required in Papua New Guinea, partly because it perceives the political climate as uncertain, partly because CRA and RTZ have adopted a policy of spreading their investments over a wide range of projects, and are reluctant to commit additional funds to an operation associated with BCL. In addition, BCL now enjoys a competitive advantage in marketing its output because of the very high quality of its concentrates, an advantage which would be lost if it sold copper metal. It is therefore possible that the Company accepted very pessimistic cost estimates to make the project look unattractive.

Until the national government adopts a position on the issue of local processing, it is not possible to assess the implications of BCL's attitude.

Net foreign exchange receipts

BCL has made a major contribution to Papua New Guinea's export income, accounting for 47 per cent of the value of total exports over the period 1972/3—December 1977. Table 22

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97 Interview with BCL's Planning Accountant, Panguna, 21 June 1978.

98 Interview with BCL's Treasurer, Panguna, 14 June 1978.
attempts to calculate the net foreign exchange inflow resulting from its operations. Positive effects result from net sales revenue and from imports of capital,\footnote{Part of BCL's foreign exchange receipts does not enter Papua New Guinea since it is permitted to maintain external cash reserves to meet its short-term liabilities. For the sake of simplicity it is assumed that all foreign currency does enter the country, and all liabilities which are met in foreign currency are then assigned as currency inflows.} negative effects from a variety of factors. Precise information is available concerning the most important of these (loan repayments, interest and dividend payments, imports of goods and services), while others (expatriate employees' remittances, induced imports) have been estimated on a basis outlined in the notes to Table 22. Table 22 indicates that net foreign exchange inflow amounted to only 26.4 per cent of gross foreign exchange inflows over the period 1972-78.

In addition, BCL exerted a major influence on the balance of payments during the construction period (1969 - April 1972),\footnote{It is not possible to entirely separate the construction and operational phases, since construction continued after production commenced. However care has been taken to ensure that items included in Table 22 are excluded when dealing with the construction period.} when foreign currency to the value of K356 million was expended. The domestic content of local purchases amounted to about K16 million, while K19 million was paid to indigenous employees. K61 million was paid to expatriate employees,\footnote{These figures were obtained from R.F. Mikesell, Foreign Investment in Copper Mining, p. 102.} indicating remittances of about K30 million and local expenditures of the
Table 22

Net Foreign Exchange Inflow from the Bougainville Mine, 1972-1978 (K'000's)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales Revenue</td>
<td>99,695</td>
<td>249,048</td>
<td>279,825</td>
<td>184,754</td>
<td>205,349</td>
<td>200,578</td>
<td>223,282</td>
<td>1,438,531</td>
</tr>
<tr>
<td>Capital Imports*</td>
<td>36,300</td>
<td>14,946</td>
<td>-</td>
<td>-</td>
<td>13,120</td>
<td>13,120</td>
<td>15,800</td>
<td>108,266</td>
</tr>
<tr>
<td>Total Inflow(A)</td>
<td>131,995</td>
<td>263,994</td>
<td>279,825</td>
<td>184,754</td>
<td>218,469</td>
<td>228,678</td>
<td>239,082</td>
<td>1,546,797</td>
</tr>
<tr>
<td>Debt Repayment</td>
<td>-</td>
<td>68,002</td>
<td>36,904</td>
<td>18,462</td>
<td>19,544</td>
<td>25,635</td>
<td>64,600</td>
<td>233,147</td>
</tr>
<tr>
<td>Interest Charges</td>
<td>22,562</td>
<td>17,493</td>
<td>13,205</td>
<td>11,469</td>
<td>11,060</td>
<td>11,661</td>
<td>6,093</td>
<td>93,543</td>
</tr>
<tr>
<td>Dividends Paid Overseas</td>
<td>-</td>
<td>54,453</td>
<td>49,187</td>
<td>17,887</td>
<td>17,887</td>
<td>14,309</td>
<td>26,829</td>
<td>180,552</td>
</tr>
<tr>
<td>Expatriates' Remittances**</td>
<td>2,800</td>
<td>5,400</td>
<td>6,700</td>
<td>7,100</td>
<td>8,200</td>
<td>8,700</td>
<td>8,500</td>
<td>47,400</td>
</tr>
<tr>
<td>Imported Goods and Services</td>
<td>60,400</td>
<td>52,700</td>
<td>56,300</td>
<td>81,600</td>
<td>98,600</td>
<td>103,600</td>
<td>104,600</td>
<td>557,800</td>
</tr>
<tr>
<td>Import Content of Domestic Purchases of Goods and Services***</td>
<td>400</td>
<td>4,000</td>
<td>3,800</td>
<td>3,400</td>
<td>4,100</td>
<td>6,200</td>
<td>3,400</td>
<td>25,300</td>
</tr>
<tr>
<td>Total Outflow(B)</td>
<td>86,162</td>
<td>202,048</td>
<td>166,096</td>
<td>139,918</td>
<td>159,391</td>
<td>170,105</td>
<td>214,022</td>
<td>1,137,742</td>
</tr>
</tbody>
</table>

Net Balance of Payments Effects = (A) - (B) 45,833 61,946 113,729 44,836 59,078 58,573 25,060+ 409,055
- As % of (A) 34.7 23.5 40.6 24.3 27.0 25.6 10.5+ 26.4

Source: Table 18; information supplied by BCL.

Notes:
* Capital imports are attributed to the year in which the relevant loans were drawn down.
** It is not known precisely what proportion of expatriate wages and salaries are remitted. BCL estimates that salaried staff remit as much as 75 per cent of their incomes, while wage earners probably remit a somewhat lower proportion. It has been assumed that 50 per cent of all expatriate income is remitted, a figure which is very unlikely to overestimate the outflow.
*** Expenditure on domestic goods and services was calculated by subtracting expenditure on imported goods and services, wage and salary payments, and customs duties from the sum of operating costs and capital expenditure. Import content of expenditure on domestic goods and services was taken to be 40 per cent, as calculated by W.D. Scott and Company Pty. Ltd., A Study of the Impact of the Bougainville Copper Project on the Economy and Society of Papua New Guinea, (unpublished, Sydney, January 1973), Appendix 5A - 10.
+ The very low figures for 1978 reflect BCL's decision to make substantial loan repayments from accumulated reserves.
same amount. Taxes amounted to K19 million during the main phase of construction (1970-71), indicating total net foreign exchange inflow of K84 million.

Gross foreign exchange inflow in 1969-78 was therefore K1,902,797,000, of which it is estimated that K493,055,000 or 25.9 per cent represented net foreign exchange inflow.

In conjunction with Table 19, these figures illustrate the central role of payments to government in generating positive balance of payments effects. Over the period 1969-78, government revenue was K296.3 million, equal to 60.0 per cent of net foreign exchange inflow. The remainder was accounted for by wage and salary payments (32 per cent) and purchases of domestic goods and services (8 per cent).

Foreign exchange outflows were accounted for by direct imports (49 per cent) loan repayments (21 per cent), dividends (16 per cent), interest payments (8 per cent) expatriates' remittances (4 per cent), and induced imports (2 per cent).

Provision of scarce capital resources

In the context of the domestic economy, the capital requirements of the Panguna project have been enormous. This is illustrated by the fact that BCL's capital expenditure amounted to nearly twice the sum of those by all other private concerns and by government over the period 1969-72.

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102 See the notes to Table 22.
104 Derived from Tables 21 and 22.
105 Derived from Tables 18 and 22.
106 Over this period new capital expenditure by private concerns
had to be sought abroad, and as mentioned above RTZ's knowledge of and links with the international banking system played an important part in ensuring that it would be forthcoming.

**Provision of technology, and technical and other skills**

The technology utilised in exploiting low-grade copper deposits of the Panguna type was well established and could probably have been obtained without direct foreign investment. However, Papua New Guinea was almost totally lacking in the skills required to apply that technology in developing and operating a major mining project. It also lacked the entrepreneurial expertise to marshall the other resources needed for large-scale mineral development.

BCL has filled its requirements for skilled personnel by recruiting expatriates and by establishing comprehensive training programme for its national employees. BCL's role in ensuring the availability of skilled expatriates is especially important at the senior technical and executive levels, since it will be some time before suitably-qualified nationals are available to fill these positions. It is difficult for companies operating in LDC's to attract and retain highly-qualified expatriates, but the efficiency of BCL's operations has not been affected by this problem. The Company's position other than BCL totalled K103 million while that by government amounted to K96 million. BCL's totalled K360 million. Figures are derived from PNG Bureau of Statistics, *Capital Expenditure by Private Businesses*, Port Moresby, various issues; and P. Hastings, op.cit., Appendix, Table v.

107 See the comments on p.221-3 concerning Zambia's difficulties in this regard.
as part of a large international mining organisation is probably important in this regard — prospective employees know that they would enjoy security of employment if operations ceased at Panguna or if they found conditions on Bougainville unacceptable.\textsuperscript{108}

BCL's training programme is based on an apprenticeship scheme and on a scholarship programme which funds students attending UPNG and other colleges. The programme causes an impact beyond the Panguna project itself. Turnover among employees is high (trainees do not bond themselves to work for BCL), and the Company must train more workers than it will employ at any one time. Consequently the supply of skilled labour to the rest of the economy is enhanced.

Over the period 1968-77, 79 BCL-sponsored university students graduated and of these 33 either did not join BCL or have since terminated their employment.\textsuperscript{109} During the years 1970-78, 130 skilled tradesmen (mainly mechanics, welders, heavy equipment fitters, plumbers and carpenters) left the Company:\textsuperscript{110} to place this figure in perspective, Papua New Guinea's total annual output of skilled tradesmen was about 300 in the early 1970s. Substantial numbers of other skilled and of

\textsuperscript{108} In fact turnover among expatriate staff is high (about 25 per cent in 1977/8, according to BCL). No breakdown of this figure is available, but my impression is that turnover is lower among senior technical and professional staff. In any case, BCL does not face difficulties in finding high-calibre replacement staff, and this is the important point.

\textsuperscript{109} Information supplied by BCL.

\textsuperscript{110} Annual Report, 1978, p.15.
semi-skilled workers have also terminated their employment.\textsuperscript{111}

Not all of those who leave BCL remain in the wage-earning workforce: a proportion return to their villages to open trade stores or develop family land, and some of these do not utilise the skills they have acquired. On the other hand certain trades (motor mechanic, carpenter, fitter) could be useful in the conduct of small businesses and in village development projects. Some skilled workers do remain in the wage-earning workforce, as apparently do nearly all graduates, and since both categories are in short supply in Papua New Guinea, BCL's contribution is clearly a valuable one.

BCL's training effort has generally attracted favourable comment,\textsuperscript{112} but the Company's Training Manager feels that it is unsatisfactory, particularly in the very important area of on-the-job training. In his view, expatriate staff lack any interest in passing on their skills since they would be 'training themselves out of a job'. He claims that BCL is partly responsible for this situation because it fails to systematically monitor the progress of apprentices to ensure that skills are in fact being imparted, and he argues that localisation will be slow until the problem is overcome.\textsuperscript{113} This argument seems to find support in the absence of any

\begin{footnotesize}
\textsuperscript{111} In 1974/5, for example, 449 skilled workers and 948 semi-skilled workers left the Company. The figure for skilled workers would include the tradesmen who terminated during these years. Information supplied by BCL.

\textsuperscript{112} See, for example, R.F. Mikesell, \textit{Foreign Investment in Copper Mining}, p. 118.

\textsuperscript{113} Interview with BCL's Training Manager, Panguna, 16 June 1978.
\end{footnotesize}
decline in expatriate employment over the last four years. Vigorous action by the Company might well cause dissatisfaction among expatriate staff, and BCL's lack of initiative may reflect its unwillingness to risk a confrontation.

It is unlikely that its foreign nature is responsible for any such attitude on BCL's part. The Company's primary concern is to maintain efficiency, and at present efficiency depends on a high degree of commitment from expatriate workers. BCL thus faces a dilemma. While expatriates are needed, issue will not be taken with them on the question of training, but until training is improved expatriates will be needed. This dilemma faces other mining industries which depend on expatriate labour, and it is a dilemma which continued to face Zambia, for example, after foreign mining companies had been nationalised. Its basic cause lies in the character of the national workforce when mining commences.

Provision of infrastructure

The infrastructure provided by BCL has had significant 'spin-off' effects, particularly by facilitating movement of goods into and out of the region. By giving villagers in the vicinity of the mine and in Southwest Bougainville access to port of Kieta, the construction of the Panguna-Kieta road

114 See above, p.477.
115 See p. 248.
has substantially lowered transport costs for export crops and for inwards shipment of general cargoes. Local people have increased their incomes, and will do so again at a later date since these improvements have encouraged additional plantings of tree-crops. The new roads will also benefit the nascent cattle-breeding industry in Southwest Bougainville by facilitating stock movement.

Part of mine infrastructure has been provided by the government. Detailed information is not available regarding the cost of providing services to BCL or the charges made for them, but the government apparently suffers a slight net loss from their provision.

Absorption of domestic resources

BCL's operations have absorbed significant amounts of agricultural land and of labour on Bougainville. Cash crop production and subsistence farming have been adversely affected by the resumption of the Arawa plantation and of other areas, and by withdrawal of labour. There is no agreement as to what the effects of labour withdrawal will be in the longer

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117 ibid., p. 37.
118 Interview with Provisional Government official, Arawa, 20 June 1978.
119 Interview with Ross Garnaut, Canberra, 23 October 1979.
120 Sales of cocoa and copra by the Arawa plantation alone were estimated at A$500,000 in 1969.
term. Some claim that a permanent loss of agricultural skills, and so of production, will occur,\textsuperscript{122} but it is possible that areas now abandoned or under-utilised will again be fully exploited as Bougainville's population grows.

**Impact on consumption patterns**

BCL's presence has influenced consumption patterns on Bougainville in a number of ways. Villagers in the vicinity of the mine must now purchase much of their food requirements, previously met by subsistence farming. A substantial number of people have obtained large cash incomes from compensation payments or wages, enabling them to greatly extend the range of items consumed. Many Bougainvillians have been influenced by their experiences in company messes, canteens and supermarkets, and by the 'demonstration effect' exercised by expatriate workers and their families. They feel new and different needs and have changed their consumption patterns in satisfying them.\textsuperscript{123}

But in what sense, if any, are the new patterns of consumption inappropriate? First, they add to Papua New Guinea's imports (for example of tinned and fresh food, motor vehicles, luxury goods), not a welcome development for a country which emphasises the need for self-sufficiency.\textsuperscript{124} Second,

\textsuperscript{122} Interview with Provincial Government Planner, Arawa, 20 June 1978.

\textsuperscript{123} A. Mamak and R. Bedford, *Compensating for Development*, p.86.

\textsuperscript{124} One of the government's 'Eight Aims' is to achieve 'a more self-reliant economy, less dependent for its needs on imported goods and services ...'
consumption of certain items, particularly alcohol, is having socially disruptive effects. Third, Bougainvillians may not be able to meet their newly-acquired needs in the future. As mentioned above, many of those who received cash payments from BCL will not enjoy a regular income, and there is a clear danger that these payments, made to allow replacement of income-generating assets (land, forest, rivers), will be frittered away on consumer goods. More broadly, the Kieta district has become highly dependent on the mine and, if and when mining ceases, a serious regional problem may emerge as few alternative sources of wage employment are likely to be available. This difficulty could be overcome if wage payments and other current cash receipts were invested in assets which could provide incomes in the future, but the impact of the mine on consumption patterns reduces the likelihood of this happening. In a detailed survey carried out in 1973-74, Moulik found that villagers in the Kieta area had substantially higher consumption levels and lower savings levels than those in the Buin district, farther removed from the mine. Ironically, the Buin people have not lost their income-generating assets, and consequently have less need to save.

Impact on domestic income distribution

BCL's demand for labour has created upward pressure on wage rates for plantation workers on Bougainville, and so has

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125 By 1974 this problem was causing considerable concern in areas surrounding the mine, being repeatedly mentioned in meetings of rural councils and similar forums. A. Mamak and R. Bedford, *Compensating for Development*, p.86.

redistributed income from expatriate planters to their indigenous employees, a desirable outcome given the Somare government's policy priorities. However in another way BCL's presence skewed income distribution in favour of non-nationals, since it brought large numbers of highly-paid expatriates to the country. The Company's demand for labour has been less significant on the national level; it may have exercised some upward pressure on general wage levels, but it would not be possible to identify the distributional effects of any such trend.

It is unlikely that payment of high wages to mineworkers has exercised a significant 'demonstration effect', since the numbers involved are small (less than 0.9 per cent of wage earners) and since BCL's operations are geographically isolated. However the high profits generated by BCL in 1973/4 were apparently an important factor behind successful political pressure for large increases in minimum wages and public service salaries in 1974.

BCL's operations have had a marked effect on regional income distribution. In 1966/7, domestic factor incomes per capita on Bougainville exceeded the average for the rest of Papua New Guinea by an estimated 9 per cent; by 1971/2, this

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127 This effect was particularly noticeable during the construction phase when some 6,700 nationals were employed at Panguna, but BCL's presence has continued to exercise an influence as demand for labour is maintained because of high turnover among its employees.


129 Interview with Ross Garnaut, Canberra, 23 October 1979.
figure had risen to 185 per cent. Since a high proportion of Bougainvillians living in rural areas remained heavily dependent on subsistence farming during these years, income accruing within the region was apparently much more unevenly distributed at the end of this period than at the beginning.

The political impact

No evidence was found that Papua New Guinea's leadership engaged in complicity with BCL, or that BCL, its parent companies or their home governments attempted to subvert domestic political processes in order to produce policy outcomes favourable to themselves.

The Panguna development's impact on the secessionist movement has had important political implications. In the early 1970s secessionist sentiment waxed and waned with changing circumstances, but the underlying demand for some measure of autonomy gradually strengthened. That demand led to the establishment of a provincial government on Bougainville in 1974, and eventually to a unilateral declaration of independence by Bougainvillian politicians for what they called the Republic of the North Solomons in September 1975. Their action faced Papua New Guinea with its most serious political crisis to date, but a compromise was eventually agreed between the national and provincial governments whereby the latter was granted a substantial degree of autonomy in financial and

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130 Derived from M.L. Treadgold, 'The Regional Economy of Bougainville', Table 8, p.35; Table 11, p.41.
administrative terms. 131

What was BCL's role in these events? Its presence gave the initial impetus to the secessionist movement and allowed its leaders to present secession as a financially viable alternative, but of course its influence in this regard was passive: it could not help having these effects. 132 The Company's operations are vulnerable to sabotage, 133 while its expatriate workforce is also in a vulnerable position. In order to protect the interests of its shareholders (one of whom is the national government) and to safeguard its employees, BCL has been careful not to antagonise the separatists. On the other hand, the Company realise that it must live with the national government, and that any support for secessionism might bring retaliation from Port Moresby. Its response has been to refrain from any active involvement in island politics.

BCL is certainly not in favour of secession, contrary to what many Bougainvillians believe. 134 These people feel that the Company's economic and political position would be stronger

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132 Except to the extent that it was responsible for confrontations with local people during the exploration stage.

133 Destruction of the concentrate pipeline or damage to the power station or water supply would interrupt production, possibly for an extended period of time. Not only would repairs have to be carried out but employees who had dispersed would have to be re-hired or replaced.

134 A number of local people assured me that BCL offered active support to the secessionists in 1975/6.
within an independent Bougainville, and conclude that BCL must therefore want secession. Whatever the validity of this belief, BCL's management has no guarantee that Panguna would survive secession intact or that a vengeful national government might not later regain control, and it would hardly risk a profitable $500 million investment on the off-chance of improving its position.

Mineral policy — a broader perspective

The strategy of maximising mineral revenues for use in rural development is basic to Papua New Guinea's general mineral policy. The analysis of the Bougainville mine's economic impact indicates that the assumptions which underlie this strategy are correct. The direct economic impact is slight; employment is modest, linkage industries practically non-existent (with the exception of food crop cultivation on Bougainville), and the spin-off effects of mine infrastructure are highly localised. The direct impact which occurs does have undesirable features, particularly in that it encourages inappropriate consumption patterns and adversely affects regional income distribution. On the other hand, the Bougainville mine has generated substantial economic rents, a significant proportion of which have been captured by the national government. Thus maximisation of mineral revenues does appear to provide the most logical response.

A policy of applying mineral revenues to rural development is clearly appropriate for a country whose population is predominantly rural and will be so for the foreseeable future, and in which allocation of resources has previously been heavily
weighted in favour of the urban sector. However one important question does arise: can the government ensure that mineral revenues actually reach the rural sector?

In the mid 1970s there were indications that a high proportion of such revenues might rather be absorbed by urban-based civil servants and on urban-oriented services. Over the period 1971-75, for example, government expenditure on salaries and wages rose by 83 per cent, an increase due to expansion of the public service from 37,000 to 50,000 and a rise in average per capita public service earnings of 35 per cent.\textsuperscript{135} It is more difficult to trace developments in the allocation of expenditure on services between urban and rural areas, but over the years 1972-75 Departmental expenditure (much of which would be absorbed in maintaining the existing urban-oriented structure of services) increased by 212 per cent, while capital expenditure (which would include items crucial to rural development such as construction of roads, marketing and storage facilities, schools and hospitals) fell by 22 per cent.\textsuperscript{136}

Since 1976, the government has tried to come to grips with these problems. It is attempting to limit growth of the public


\textsuperscript{136} Derived from ibid., Table 6.4, p.103. These figures may be somewhat misleading, as the range of current expenditure items financed by the PNG budget increased during these years (for example by the addition spending on defence and civil aviation was included). However the basic picture they present is correct.
service and has introduced an incomes policy designed to prevent any real increase in public service incomes. It has also attempted to curb expenditure on existing services and infrastructure and has increased charges for government services, so that expenditure can be re-oriented towards capital investments in rural areas.

Another important consideration relates to the existence of appropriate planning structures through which mineral revenues can be channelled into rural development projects. It has taken some time to establish such structures, but a Public Expenditure Plan is now in operation which identifies priority areas for resource allocation, and seeks to direct public expenditure accordingly. Mineral revenues will make a very substantial contribution towards financing that expenditure.

The impact of public expenditures will depend to an important degree on the efficiency and honesty of national and provincial governments. If reasonably high standards can be

137 It is planned that public service expansion should be limited to 1.4 per cent per year; expansion occurred at an annual average rate of 5.7 per cent in 1971-75.

138 A wage freeze was in force from mid 1976 to March 1977; since then increases in public service incomes have been pegged to the inflation rate.

139 In 1977, for example, expenditure on roads was double that of the previous year. However the government's critics point out that most of this expenditure was on highway construction rather than on the feeder roads so essential for rural development. Far Eastern Economic Review, Asia 1977 Yearbook, (Hongkong, 1977), p. 272.

140 PNG National Planning Office, The National Public Expenditure Plan 1979-82, (Port Moresby, 19 November 1978). Rural development projects which have been accorded priority are listed on pages 66-7 and 73 of the Plan.
reached and/or maintained, and if national government can contain the demands of the urban dwellers, expenditure of mineral revenues can play a significant role in fostering broadly-based economic and social development in rural areas. The analysis of the Bougainville mine's impact indicates that external diseconomies associated with mining (absorption of agricultural land and labour, effects on wage levels) are unlikely to adversely affect the chances of success; though significant on a regional basis, the impact of these diseconomies is highly localised.¹⁴¹

Conclusion

By the time operations commenced at Panguna, power was being transferred from the Australian Administration to Papua New Guineans. Their priorities dictated a change in approach to mineral development, and the very high profits enjoyed by BCL in 1973/4 provided the catalyst for rapid action. With the assistance of externally-recruited expertise, the Papua New Guinea government successfully renegotiated the Bougainville Copper Agreement. In doing so it obtained substantial immediate financial benefits, established a basis for an efficient mineral taxation system, and formulated soundly-based general principles for future mineral development.

Papua New Guinea's success in devising appropriate mineral policies reflects the influence of historical, political and

¹⁴¹ Bougainville's island character has of course been important in this regard, but mineral prospects such as Ok Tedi, though situated on the mainland, are even more isolated than Panguna.
institutional factors which have shaped the policy-making process. In particular, the absence of strong racial antagonisms allowed a rational approach to the issues of foreign mining investment, and permitted the development of good working relationships between national politicians and expatriate advisers. The absence of domestic political or bureaucratic pressure groups with a vested interest in influencing the outcome also facilitated rational policy formulation. No evidence was found that complicity between local elites and foreign investors threatened the implementation of appropriate policies.

Since 1972 the national government has acted to maximise the benefits of mineral development to Papua New Guinea and to Bougainville. Economic benefits have been substantially enhanced, and action has been taken to ensure that Bougainvillians enjoy financial benefits from the Panguna development and exercise greater control over mining activities which affect their island. This is in direct contrast to the situation which existed prior to 1972. In Papua New Guinea's case, the impact of mineral development has been determined primarily by the character of government rather than by the character of mining investment.
CONCLUSION

What conclusions can be drawn from the case study material concerning the effects of foreign-financed mineral development and the nature of host country-foreign investor relations? I begin by summarising the empirical evidence yielded by the case studies, after which the implications of that evidence for the nature of the host country-foreign investor relationship are considered in the light of the discussion in Chapter One.

Creation of national incomes.

In all four cases, substantial profits were generated by foreign mining operations. The host countries differed considerably in the extent to which they captured those profits, and to which they reconciled their need for revenue with the need for continued exploration and development.

Ireland: Prior to 1973, Ireland sacrificed revenue unnecessarily in its attempts to attract foreign mining investment. Its failure to capture a higher proportion of economic rents occurred despite declining uncertainty as to geological and other conditions in Ireland and an increase in the expertise available to government. In attempting to overcome Ireland's general economic problems, Irish governments offered generous tax concessions to encourage
foreign investment. The attitude of Irish politicians towards foreign mining companies led them to accept claims that similar concessions were necessary to attract foreign mining investment. The companies involved apparently played some part in fostering those attitudes.

The discovery of the Navan zinc/lead deposit in 1970 substantially increased the Irish government's 'objective' bargaining power, and led to public pressure for termination of tax concessions to foreign mining companies. Those concessions were withdrawn, but bureaucratic decision-makers were able to negate substantially the effect of their withdrawal. Why the individuals involved acted in this way is uncertain; they apparently continued to hold the attitudes displayed by Irish governments in earlier years, while a determination to prevent what they saw as encroachment on their own powers may also have played a part. Their ability to act in this manner reflected divisions in the Irish government (caused by the continued adherence of some politicians to those same attitudes) and the secret nature of the bureaucratic processes involved.

The Irish government's total 'take' from new mineral developments is also influenced by the level of its equity participation and by the level of royalties, both negotiated with the companies involved. In the negotiations with Tara Mines Limited, constitutional, political and bureaucratic constraints unrelated to the host country-foreign investor relationship played a crucial role in weakening the government's bargaining position.
Zambia: In the mid and late 1960s, the Zambian government captured a very high proportion of mining company profits, reducing the expected rate of return below that required to attract new investment. That rate was certainly high, reflecting the degree of risk attached by foreign mining companies to investment in Zambia. However, the government could have acted to reduce risk perceptions without sacrificing substantial amounts of revenue, particularly by changing the manner in which taxation was applied. This was done in 1970, but the new tax rate is substantially higher than the average over the period 1964-70 and, in conjunction with the requirement that the government have a 51 per cent 'carried' interest in all exploration ventures, its application will very probably deter exploration for, and development of, base metal deposits.

Thus in attempting to meet its revenue requirements, Zambia has paid insufficient attention to the need for continued investment. To some extent, this failure reflected the urgency of those requirements and the absence of alternative ways of meeting them. It also reflected the influence of historical and political factors which militated against rational decision-making on issues involving foreign mining investment.

Australia: During the period to 1972, Australian governments unnecessarily sacrificed revenue in their attempts to encourage foreign mining investment. This situation resulted from a number of factors. First, Australian authorities were not fully aware of the factors favouring Australia as a mineral investment location in
the post war period. This lack of awareness apparently reflected ignorance rather than any element of 'complicity': the factors involved were complex, varied, and occurred in different parts of the world, and consequently their implications for Australia were not grasped by policymakers. As a result, Australian authorities believed that mineral development would not occur if tax concessions were not granted. Second, Australian governments overestimated the likely extent of direct economic benefits from mineral development. The sacrifice of revenue consequently seemed worthwhile, and the direct benefits seemed sufficient reward for permitting exploitation of Australia's minerals. Another example of this general attitude has been the willingness to sacrifice revenue in order to encourage mineral processing in Australia. Third, competition between state governments for foreign mining investment apparently depressed royalty rates.

The manner in which mining taxation is collected in Australia has significant drawbacks, resulting particularly from the application of unit and ad valorem royalties by state governments, but also from the charging of a flat rate of profits tax by the federal government. While the level of taxation was low, charging of such taxes was unlikely to have affected production or investment decisions significantly, but with increases in effective tax rates and as lower grade ores are exploited this situation may change, particularly if movements in costs and prices are unfavourable. The federal structures which underlie the state royalty system have played a crucial part in
militating against adoption of more efficient methods of taxation both by the States and the Commonwealth.

Papua New Guinea: Papua New Guinea's colonial administrators failed to negotiate appropriate taxation arrangements for the Bougainville Copper project by omitting to provide for an unexpectedly favourable outcome. In this instance, lack of relevant expertise was an important factor, though it is possible that Australian administrators felt a community of interests with the foreign investors concerned, resulting in a failure to protect fully their own real interests and those of Papua New Guinea.

Papua New Guinea's national governments have enjoyed considerable success in reconciling their revenue requirements with the need for continued investment and for efficient mineral exploitation. Substantial revenues were obtained as a result of the Bougainville renegotiation, while an efficient, generally applicable mineral taxation system has been designed which will obtain substantial revenues from profitable projects, but which is unlikely to deter mining investment or encourage inefficient working of minerals. Papua New Guinea's success in this regard resulted from the high degree of rationality which characterised decision-making, itself reflecting historical and political factors, particularly the absence of strong racial antagonism and of domestic political or bureaucratic groups with an interest in influencing the outcome.
Generation of employment: In all cases, mining employment was small in relation to the value of output, reflecting the capital intensity of mining operations. No evidence was found that the mineral deposits involved could have been exploited in qualitatively different ways, and only in Zambia were economically-feasible mining methods sufficiently flexible to allow significant cross-substitution between labour and capital. In this case it was argued that the profit-maximising factor combinations pursued by foreign mining companies were not necessarily inimical to Zambia's interests, but the Zambian government's failure to establish relevant policy priorities renders a more definite judgement difficult.

In all four cases, wage payments to mineworkers were substantially above the national average, reflecting the high productivity of labour in a capital-intensive industry. In Papua New Guinea and Zambia very large wage differentials existed between expatriate and national mineworkers, and in the Zambian case those differentials exercised a major impact on wage levels in the monetary sector and on domestic income distribution (see below).

Backward linkage: Substantial economies of scale are associated with production of many of the inputs utilised in modern mining operations. In addition, the total scale of backward linkage from mineral development is comparatively weak, as the Australian case illustrated. Consequently, mining operations can rarely of themselves provide the basis for establishment of new efficient manufacturing industries. Linkage usually occurs where the relevant industries are
already in existence, or where a high proportion of the fixed overhead costs associated with production of mining inputs can be met from established operations. In other words, the existing level of industrialisation in the host country is a crucial factor in determining the extent of linkage development.

This is evidenced by the success of Australia (which also derived important economies of scale from the large size of its mining industry) and Ireland in taking advantage of the markets provided by mineral development. Papua New Guinea has been unable to do so, and while Zambia has established a wide range of supplying industries some have not achieved minimum economies of scale. It is not evident that the establishment of inefficient manufacturing industries will enhance the prospects for broadly-based economic development in Zambia.

The foreign mining companies encountered in the case studies did display a tendency to purchase goods and services from suppliers of proven reliability, which frequently meant suppliers from their home countries. This led to conflict with host country authorities in Zambia, but for ideological and political rather than economic reasons: the Zambian government's aim of disengagement from Southern Africa was incompatible with continued reliance on suppliers in that area. In both Ireland and Australia, this tendency on the part of foreign mining companies was partly responsible for an initial lag in linkage development, which was, however, quickly overcome. Indeed at least some foreign companies operating in these countries have adopted a policy of favouring domestic producers. Their willingness to do so
reflects the ability of these producers to supply goods and services at competitive or near-competitive prices, but it should be noted that the Zambian companies also were generally willing to utilise domestic sources of goods and services where these were available, despite the cost disadvantages this sometimes entailed.

It is important to remember that the companies encountered in this study generally did not themselves produce mining inputs. In addition, many of the subsidiaries were responsible for their own purchasing and did not utilise centralised purchasing agencies. Bougainville Copper Limited, for example, itself organises a comprehensive research programme aimed at identifying the most competitive source of the major inputs it utilises, and purchases goods and services accordingly.¹

**Forward Linkage:** In each case study country situations were encountered in which foreign investors displayed a reluctance to undertake mineral processing. In Australia, Papua New Guinea and Zambia significant economic constraints militated against local processing and/or fabrication, but it is difficult to judge the extent to which their existence explained the reluctance to invest. In Zambia and Papua New Guinea perceptions of political risk and/or the corporate strategies of the investors concerned were certainly important. In neither case was clear evidence found that these factors resulted in failure to develop viable

¹ Interview with BCL's Chief Purchasing Officer, Panguna, 15 June 1978.
opportunities for forward linkage, though the Zambian government had to act to ensure that an opportunity for domestic copper fabrication was grasped.

In Ireland foreign smelting companies which supplied loan capital for mining projects acted to prevent construction of processing facilities in order to protect markets served by existing facilities. (The unwillingness of a number of aluminium companies to undertake processing in Australia was attributed to the same cause.) However, the foreign operator of one of the Irish mines was willing and indeed anxious to invest in processing. It should be noted that Ireland enjoyed considerable economic advantage as a location for processing, being close to major European markets and inside the EEC's tariff barriers.

**Provision of scarce resources through the investment process.**

Foreign investors have played a crucial role in supplying scarce risk capital in each of the case study countries. This continued to be the case in Zambia even after nationalisation; most of the capital involved was in loan form, but foreign equity capital has financed a high proportion of exploration expenditure since 1970, and it was argued that such capital will probably be used in future major base metal developments.

In most cases the technology utilised in mineral development was widely available and could probably have been obtained without foreign direct investment; a notable exception involved technology associated with bauxite processing in Australia. However, in each case study country
foreign investors played a crucial role in providing the skills required to apply technology efficiently. In each case they also provided the entrepreneurial and organisational skills needed to assemble the other resources required for successful mineral development.

In general little evidence was found that significant opportunities existed for varying the type of technology employed in mineral development. The only exception involved limited opportunities for varying the labour intensity of technology utilised in Zambia's copper mines, but as mentioned earlier the absence of clear policy priorities in this area makes it difficult to assess the appropriateness of the technology employed.

Creation of external economies.

The specialised nature of the processes involved, the secret nature of some of them and the general absence of domestic mining companies served to reduce the significance of technology 'spill-over' in the host countries.

As regards diffusion of skills, the experience of the developing countries differed substantially from that of Ireland and Australia. In the latter diffusion occurred rapidly, with nationals replacing expatriates over a short period of time. Zambia and Papua New Guinea encountered major difficulties in the area of localisation, mainly because of a shortage of nationals with the education or training to receive skills and because of the unwillingness of some expatriate workers to pass on their expertise.

As a result, Zambia and Papua New Guinea have had to attract and retain large numbers of expatriates over extended
periods of time. The links between foreign subsidiaries and their parent companies played an important role in allowing them to do this. Zambia has recently attempted to hire skilled personnel independently of the foreign companies, but has encountered serious difficulties in meeting its requirements, particularly at the middle and senior technical and managerial levels. Thus the difficulties encountered in localisation both reduce the contribution of the foreign investor to the host country's store of skilled personnel and prolong the foreign investor's role as a supplier of such personnel.

In general, mine infrastructure did not facilitate emergence of new industries in the host countries. Thus its impact was largely determined by existing patterns of economic activity in mining areas, and its principal effect was to lower costs (particularly transport costs) or improve market access for established enterprises. The geographical location of mineral deposits in Australia, Papua New Guinea and Zambia meant that its impact in this regard was highly localised.

Creation of external diseconomies.

The operations of foreign mining companies and the presence of their expatriate staff affected consumption patterns in Papua New Guinea and Zambia in ways which imposed costs on those countries, or which threaten to do so. The remote situation of the Panguna mine has helped to localise its impact in this regard, but its effects on Bougainville itself have been substantial. In Zambia, the impact has been more widespread, reflecting the scale of mining activity,
its central geographical location, and the length of time over which it has occurred.

Domestic resources were absorbed in each of the case study countries but the implications of resource absorption differed from case to case. In certain instances the resources had previously been idle (labour in Ireland). In others, resources were apparently used less efficiently in mining than they would have been in alternative uses (domestic equity capital mobilised by foreign mining companies in Australia). In Papua New Guinea and Zambia agricultural land and labour were absorbed, resulting in significant opportunity costs and to economic and social disruption on a local or regional basis. However the individuals involved were given an opportunity to enhance their incomes, while from a national perspective resources were probably used more productively by the foreign investors than they otherwise would have been.

Foreign mining investment apparently did not exercise a significant effect on domestic income distribution in Australia or Ireland. It had a substantial impact on regional income distribution in Papua New Guinea, widening disparities in wealth between Bougainville and other parts of the country and within Bougainville itself. In Zambia, its effects were severe and deep-seated. For reasons explained in the case study, Zambian mineworkers received very large wage increases over the period 1964-1966. The direct effect of these increases was to redistribute income from foreign mining companies and the Zambian government to the mineworkers. Indirectly they reduced Zambia's capacity to expand urban employment, widened income disparities between
the rural and urban sectors, and lessened the government's ability to redistribute income in favour of the former. This in turn undermined the prospects for rural development. The situation was exacerbated by the Zambian government's failure to spell out and take account of the implications of its mineral policies for domestic income distribution.

The political impact.

Questions of government control over corporate decision-making played a central role in host country-foreign investor relations in the case study countries, with the exception of Papua New Guinea. It is possible to identify three distinct areas in which government sought to influence decisions or exercise control. The first involved what might be called 'strategic' decisions, relating, for example, to disposal of mine output, production levels, and investment policies. The second concerned operational decisions of a financial kind, and particularly pricing policies. A third area related to the actual conduct of mining operations, and involved issues such as grading and dilution policies. Issues relating to national economic management were generally not significant. Foreign-financed mineral development did create or help to create problems of economic management (for example through its impact on wage levels in Zambia and on the balance of payments in Australia), but these outcomes were not perceived by host country authorities as resulting from avoidable actions by the companies concerned.

The question of control over production and investment decisions figured most prominently in Zambia, mainly because
of factors associated with the structure of its mining industry. In Australia, Ireland and Papua New Guinea, many of the investment decisions taken during the 1950s and 1960s were by companies contemplating investment in the country concerned for the first time. If the decision was negative, there was consequently little basis on which host country authorities could attempt to exercise influence. In Zambia, investment decisions were mainly being taken by operators of existing mines, which gave the Zambian government significant scope to exert influence.

In addition, Australia, Ireland and Papua New Guinea followed a policy of encouraging favourable investment decisions, usually by granting tax concessions. Since there were then few profitable mines operating in these countries, little immediate sacrifice of revenue was involved and, since policy-makers generally believed that mineral development would not occur without the concessions, any future sacrifice was perceived as hypothetical. In Zambia, the companies concerned were generating substantial profits, and tax concessions would represent an immediate and real sacrifice of revenue.

Finally, many of the companies operating in Australia, Ireland and Papua New Guinea were increasing their market shares or maintaining their shares of rapidly-expanding markets. Considerable expansion of capacity was consequently occurring, which seemed to justify the tax concessions, concessions which in turn encouraged further expansion (a point made in relation to Australia by the 'Fitzgerald Report'). The companies in Zambia, on the other
hand, were apparently content with their market shares and indeed were willing to see those shares decline.²

It is not possible to state conclusively why AAC and RST were not attempting to expand output in Zambia. Changes in relative production costs and the desire to diversify the geographical spread of its investment may have motivated AAC, which did expand its copper interests in Botswana, Canada and Mauritania during the 1960s.³ RST did not follow a similar course, but it was in a weaker position to do so,⁴ and it may be significant that the expansion of Zambian capacity which did occur over the period 1964-69 was entirely due to RST.⁵ Concern with over-supply in the copper market was certainly an important factor for both companies – they were earning a comfortable return at prevailing prices, and feared that increased production would lead to a decline in prices. Both also perceived Zambia's political situation as highly unstable.

The Zambian experience seems to support Norman Girvan's contention that the investment and production decisions of the foreign investor will eventually come into conflict with the host country's interests. However, three points should

² Between 1964 and 1970 Zambia's share of world copper production fell from 13.0 per cent to 10.7 per cent. Zambia Mining Yearbook, 1972, p.19.


⁴ By the 1960s RST's mining interests were almost exclusively confined to Zambia, and it was consequently less likely than the widely-diversified AAC to become aware of, or be in a position to grasp, favourable investment opportunities.

⁵ See above, p. 179, n. 73.
be made here. First, it is not obvious that a strategy of restricting production in order to maintain prices was necessarily contrary to Zambia's interests. If its intention was to use mineral revenues to finance rural and other non-mining development, price maintenance might be a more important consideration than achieving increased production, and so higher employment and export receipts.\(^6\)

It should also be remembered that the net foreign exchange inflow from mining operations was in any case highly sensitive to price fluctuations.

Two factors explain the Zambian government's unwillingness to consider such a strategy. First, it was aware that it alone could not effectively maintain prices, and believed that other copper producers would expand regardless. While this belief was probably well-founded, it does not alter the fact that corporate and national interests may not have been in conflict. Secondly, it had not established clear priorities in relation to the role which mineral development was expected to play, and consequently had not decided whether its priority was price-maintenance or expansion of production. Indeed, it had not even recognised that the two might be incompatible.

A second point is that corporate behaviour was partly determined by the Zambian government's policies. Whatever the reason for the reluctance of AAC and RST to invest in new capacity, the actions of the Zambian government certainly

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\(^6\) Exports receipts would be higher where the impact of increase on the larger volume of exports was sufficient to outweigh that of the lower unit price.
reinforced it, as is evident from the fact that planned capacity expansions were abandoned after the failure to resolve the royalty issue. Thirdly, a host country need not forgo substantial amounts of revenue from profitable mining projects in devising taxation arrangements likely to encourage favourable investment decisions, as the Papua New Guinea case demonstrated.

The Zambian government believed that production would not expand until it established control over the copper industry, which it attempted to do through the 1969 Take-over. This action added substantially to the reluctance of AAC and RST to invest in Zambia, while the arrangements it negotiated did not give the government the control it sought. This failure was due to the timing of the Take-over, which reflected short-term political considerations, and to historical and institutional factors which affected the quality of advice the government received and the quality of decision-making generally. It led to the redemption of the ZIMCO bonds in 1973, but this initiative did not give the government full control, because it failed to carry through the strategy for eliminating the minority shareholders' monopoly of technical expertise. Once again, the reasons for this failure involved political processes unrelated to the host country-foreign investor relationship.

The attempts to gain control of the copper industry imposed substantial costs on Zambia, both in financial terms

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7 See above, p.173.
and as a result of the loss of technical and managerial skills which accompanied the partial withdrawal of foreign investment.

Pricing policies were an important issue in Ireland, Australia and Zambia, though it was argued that, with the exception of a small number of companies in Australia, the activities of the foreign investors involved did not in fact warrant concern. The situation in Ireland was exceptional in that the government was concerned primarily with the pricing policies of multi-national oil companies, and felt it had to establish as a general principle its right of access to relevant corporate information. It was concluded that its negotiation of a minority shareholding in the enterprises involved, and of provisions relating to access to information, placed it in a strong position in this regard.

Australia's Labor government over-estimated the degree to which pricing policies inimical to Australia's interests were being practised, though some aluminium companies certainly were engaged in transfer pricing, and fragmentation among mineral exporters did sometimes exacerbate the impact of adverse market conditions on prices. It was argued that Australia could do little, acting alone, to prevent transfer pricing at a cost commensurate with the potential benefits, other than to apply relevant legislative controls as strictly as possible. As regards fragmentation among exporters, it is by no means evident that the foreign nature of the companies concerned was the source of the problem. In general, these companies had no connections with their
customers, and themselves stood to lose by any failure to maximise prices. It is unlikely that Australian-owned companies would have been better able to resist the superior bargaining power of monopsonistic buyers.

Concern with obtaining control over the technical aspects of mining operations was largely confined to Zambia. The Zambian government attempted to break the foreign investors' monopoly of technical expertise by establishing monitoring units designed to implement selective checks on mining operations and on 'technical' aspects of the decision-making process, but it followed this course only briefly. The reasons for its abandonment related primarily to political processes unconnected to the host country-foreign investor relationship.

It should be noted that the need for host country control over mining operations is influenced by government policies. In particular, taxation structures can have an important bearing in that they can either encourage or discourage efficient mineral exploitation. Thus, for example, the application by the Zambian government of substantial unit royalties to copper production encouraged the high-grading perceived as one factor which rendered government intervention necessary.

In general, neither foreign mining companies nor their home countries attempted to subvert political processes in the host countries examined; only in Ireland was evidence found that foreign mining companies had influenced these processes so as to produce outcomes favourable to themselves.
Three general points emerge from this summary. First, foreign-owned mining companies are not all alike, and the differences between them have very important implications for the way in which foreign mining investment affects a host country. The work of Moran and Girvan, for example, is based on a very specific model of corporate behaviour. In this model, the typical company is vertically integrated to a high degree, smelting and refining its mine output and using all or most of it in its own semi-fabricating and fabricating plants. Mineral processing and/or fabrication is usually carried on in the home country to serve domestic markets. Functions such as purchasing are highly centralised, as is decision-making, and inputs utilised in mining are frequently obtained from within the multi-national organisation. It is a model based on largely North American copper and aluminium companies which exploit minerals in South America and the Caribbean, usually for consumption in their home countries.

Some of the foreign mining companies encountered in this study displayed certain of these traits (particularly aluminium companies in Australia), but generally they have not corresponded to the model described above. They have typically not been vertically integrated beyond the refining stage, and have disposed of their output to independent smelters or fabricators. What processing they do carry out is usually performed in the host country. They exercise a substantial degree of autonomy in their purchasing policies,
and usually do not purchase significant quantities of mining inputs from associated companies. Reflecting these characteristics, they generally do not engage in transfer pricing, they base investment decisions, including those relating to mineral processing, on 'normal' investment criteria (which include perceptions of risk in the host country), and they are generally willing to utilise domestic sources of goods and services.

The nature of the firms encountered reflected the motivation of parent companies in undertaking foreign investments and the industry structures within which they operated. Most parent companies were motivated by a desire to apply capital and skills profitably in exploiting minerals for sale outside their home countries, a fact reflected in their organisational structures, which typically consisted of a number of self-contained units, each expected to generate a profit independently of the others. Outside North America, the international copper, lead and zinc industries within which many of the companies operated are characterised by a relatively low degree of concentration and of vertical integration.

Second, 'objective' factors in the host country play a very important part in determining the impact of foreign mining investment. The existing level of industrialisation influences the prospects for backward linkage, proximity to markets for metal goods and other factors of a similar kind influence the prospects for forward linkage, the nature of the national workforce determines the degree to which diffusion of skills can occur, and existing patterns of economic activity influence the impact of mine infrastructure.
Third, political processes affect the impact of foreign mining investment in a very wide variety of ways, many of which are not recognised even by authors such as Moran who accord a central role to political factors. This last point brings us to the question of host country-foreign investor relations.

It is apparent from the case studies that shifts in bargaining power, declining uncertainty, progress along learning curves and elite complicity can explain certain aspects of host country-foreign investor relations in particular situations. The Papua New Guinea government's bargaining position in relation to the Bougainville project was stronger in 1974 than the Australian Administration's had been in 1967; BCL had made a major investment from which it could not credibly threaten to withdraw as long as it was allowed a 'reasonable' return, while the profitability of the project had been amply demonstrated and the risks associated with the initial investment had largely faded from view. The discovery of the Tynagh and Tara lead/zinc deposits in Ireland in 1961 and 1970, respectively, represented important steps in a long-term decline in investor uncertainty as to conditions in the host country, a development which certainly improved the Irish government's bargaining position. The Papua New Guinea and Irish governments did move along relevant learning curves, and again this increased their potential bargaining powers. Irish and Australian authorities did fail to exercise their full bargaining powers, and in the Irish case this failure was associated with a 'pay-off' to foreign investors.
However, the usefulness of these concepts in explaining the outcome of foreign mining investments and in analysing host country-foreign investor relations is limited, partly because they do not encompass certain aspects of host country behaviour. For example, they ignore the fact that ignorance (which does not involve any element of complicity) can exert a major influence, and that a host country which perceives its interests as being compatible with those of the foreign investor may feel no need to overcome its ignorance. The concept of host country progress along a learning curve ignores the fact that a host country does not have to rely on its own resources in dealing with foreign mining companies, but can obtain expertise from abroad and thus avoid what may be the very substantial costs of itself acquiring expertise (that is, moving along a learning curve). But their usefulness is also limited for more fundamental reasons.

The case studies have shown that the political factors which influence the host country-foreign investor relationship are more complex than the concepts of 'pay-off' or 'complicity' can describe. In addition, those processes interact with the two other factors mentioned above (the nature of the foreign investor and 'objective' factors in the host country) to determine the outcome of any particular investment. Thus the processes which result in a given outcome are much more complex than concepts such as 'shifts in bargaining power', 'decline in uncertainty', 'learning curve' or 'complicity' can encompass.
The case studies raised a number of points in relation to the political factors which influence the foreign investment process. First, factors unrelated to the host country-foreign investor relationship resulted in outcomes which favoured the foreign investor. In Ireland and Australia political norms, reflected in legal and constitutional constraints, limited the freedom of action of host country authorities. Political and bureaucratic actors unintentionally undermined the position of the agency responsible for monitoring the activities of foreign shareholders in Zambia, and created obstacles to the Irish government's acquisition of relevant expertise. Weaknesses in the general policy-making process lessened Zambia's ability effectively to exercise increases in bargaining power.

This last point raises another issue. In general, the literature referred to in Chapter One is concerned with how and why changes in bargaining power occur and with whether or not they are exercised. Insufficient attention is paid to the manner in which favourable shifts in bargaining power are utilised, or to the fact that this can influence the host country-foreign investor relationship and the physical impact of foreign mining investment. For instance, both the Zambian and Papua New Guinea governments were in strong bargaining positions in the years after their countries received independence, and both exercised that power to increase revenue from foreign mining projects. Zambia did so without sufficient thought for the implications of collecting revenue in a particular way, while the opposite
was the case in Papua New Guinea. The outcome had implications both for host country-foreign investor relations (conflictual in Zambia, consensual in Papua New Guinea), and for the efficiency of mining operations (wasteful use of mineral resources in Zambia by encouraging high-grading, efficient use of mineral resources in Papua New Guinea by lightening the tax burden on marginal operations).

Political processes were crucial in determining the outcome in each case, but these had little to do with the host country-foreign investor relationship. Rather they reflected broader historical and political factors which affected the whole policy-making process.

There is also the question of whether a host country correctly assesses the extent to which favourable shifts in bargaining power have actually occurred and to which it has acquired the ability to duplicate the functions of the foreign investor. The Zambian government apparently overestimated the extent of both in 1969, and Zambia incurred substantial costs as a result; once again, weaknesses in the general framework of policy-making were largely responsible. Australia's Labor government misinterpreted the significance of changes in the international supply/demand situation for minerals, and consequently overestimated Australia's ability to obtain foreign capital and expertise without permitting direct foreign investment.

Political processes relate to the 'objective' factors discussed above in a number of ways. First, policy-makers may take account of their existence or may fail to do so, and this can modify the impact of such factors on the outcome.
of foreign mining investment. For example, after Independence the Zambian government was faced with certain 'objective' factors resulting from the wage structure of Zambia's economy. If these had been taken into account in formulating employment and localisation policies towards the mining industry, the adverse effect of foreign mining investment on domestic income distribution could have been mitigated. Second, 'objective' factors may themselves be modified by appropriate government action. For instance, the nature of the host country's workforce may be such that diffusion of skills cannot occur, but appropriate educational policies can favourably alter its character. The relevance of this possibility was very evident in the Zambian case.

The policy-making process might relate to the character of foreign mining companies in two ways. First, host country authorities may identify the type of company most likely to act in a manner compatible with their interests, and discriminate in favour of such companies in granting prospecting and exploration rights. For example, a country anxious to develop forward linkages may favour companies which do not already possess processing facilities elsewhere; a country seeking to develop backward linkages might favour companies not affiliated with producers of mining inputs. Second, as mentioned above, governments can encourage foreign mining companies to display certain characteristics (favourable or unfavourable), particularly by their taxation policies.

Given the range of factors which determines the impact of foreign mining investment and the extent of interaction between them, it is evident that such investment may produce
a very wide variety of outcomes, each on balance favourable or unfavourable to the host country to varying degrees. Thus at least in theory any of the models described in Chapter One might accurately depict what occurs in individual cases. Indeed, variations on these models (some of which are mentioned below) may be required to describe particular instances of foreign investment, and the relevance of one or another might vary over time as, for example, changes occurred in 'objective' conditions or in government policies.

If the foreign investor provides capital and expertise which would not otherwise be available, if host country political processes are such as to allow a rational pursuit of policy aims, and if the foreign company involved displays characteristics consistent with achievement of these aims, either of the 'compatible' models might apply. If conditions governing mining operations were generally applicable and displayed sufficient flexibility, limited conflict of the type envisaged by Mikesell might be avoided. At the moment, Papua New Guinea approximates to this model.

If the host country does possess the ability to duplicate the foreign investor's functions, if political processes are favourable to pursuit of host country interests, and if the characteristics of the foreign investor are inimical to those interests, foreign investors may, as Moran suggests, be 'pushed out' without substantial cost to the host country. If political processes are not favourable, foreign investment may continue, and an exploitative situation persist over extended periods of time. The case studies provided substantial evidence to
support for the points made in Chapter One in relation to Moran's prediction that exploitation will necessarily be temporary. Bureaucratic decision-makers are sometimes in a position to grant concessions to foreign investors through processes which are secret, and political actions which result in concessions are sometimes not associated in the public mind with the granting of those concessions. For these reasons, public pressure for termination of complicity does not always emerge, while the concessions granted by host country political actors are sometimes very difficult to reverse (as in the case of MINDECO's disbandment in Zambia).

If political processes are such that the ability of the host country to duplicate the functions of the foreign investor is not accurately assessed, he may be 'pushed out' and the host country may incur substantial costs as a result, as occurred in Zambia.

It is also possible that foreign investors may play a vital role in providing capital and expertise and may behave in a manner compatible with host country interests, but that host country authorities may fail to reap their full share of the benefits from mineral development because of ignorance on their part or because political processes affect their ability to do so. This would seem to have been generally the case in Australia.

A basic question remains. Is the nature of foreign mining companies, of 'objective' factors in the host country and of political processes which affect the impact of foreign mining investments such that, in a majority of cases, the impact of that investment will be favourable or unfavourable? The evidence provided by a limited
number of case studies cannot provide a conclusive answer, but it does allow a number of points to be made.

First, in all the case study countries foreign investors played a crucial role in providing scarce risk capital and expertise; the Australian and Zambian studies indicate that it is difficult for a host country to obtain those resources without permitting direct foreign investment. Thus the economic opportunities created by mineral development would not have arisen or would have been substantially diminished if foreign investment had not occurred. Second, the extent to which host countries grasped those opportunities and acted to mitigate any adverse social and economic costs arising from mineral development depended almost entirely on their ability to acquire relevant information and to devise effective policy-making structures. Host country failure to optimise benefits and minimise costs was almost entirely due to historical, political and institutional factors which militated against effective policy-making, and which were generally unrelated to the host country-foreign investor relationship. Only in Ireland was evidence found that foreign investors had influenced the decision-making process so as to bring about outcomes favourable to themselves. Third, the companies encountered in this study generally displayed characteristics which were compatible with pursuit of host country interests, though a minority did display behaviour typical of the corporate model described by critics of foreign mining investment.

Multi national and international mining companies may all be dead in the long run, but this study demonstrates that it will be in the interests of many host countries to keep at least some such companies alive for a very long time.
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