FINANCING OF JAPANESE DIRECT FOREIGN INVESTMENT

BY

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The thesis is my own work.

Josephine C.Y. Auyeong
This thesis seeks to verify the hypothesis that the financial support provided by the Japanese government and the Japanese banking system has been a key factor in the rapid growth of Japanese direct foreign investment (DFI) activities.

It has been asserted that the majority of Japanese firms are incapable of undertaking direct foreign investment on their own, as by Western standards they are "immature" in size, technological sophistication and financial strength. Financial support has therefore been provided to defray part of the private costs and to realise the social benefits of overseas production.

By examining the investment and financing activities of Japanese firms that have undertaken DFI in resources development and electronics manufacturing, it is found that, generally, financing has not been a critical factor underlying the Japanese firms' decisions to undertake DFI. However, the substantial subsidy available for DFI in resources development could have resulted in some firms undertaking higher levels of equity investment in a project.

The provision of government concessionary loans has been concentrated in resources development, where DFI is undertaken by a small group of major Japanese companies with considerable financial resources and political influence. It is suggested that instead of the national interest arguments that have been put forward to justify this policy, the subsidisation of Japanese DFI may be better explained in terms of the rent-seeking behaviour of these firms.
The prominent role of the Japanese banks in Japanese dfi activities is also primarily due to its traditional role in financing the corporate sector rather than as a supportive function to promote Japanese dfi.

The conclusion of the thesis is that the provision of concessionary financing by the government does not appear to have been the key factor underlying the rapid growth in Japanese dfi since the late sixties. Hence, the application of the "Japan Inc" concept of the Japanese economy to explain Japanese dfi activities is also not appropriate. Instead the substantial subsidy that has been provided through these loans could have mainly accrued to the Japanese firms and their foreign partners in resources dfi as rents, at the expense of the Japanese tax-payers who are financing the subsidy and, both the Japanese and host country consumers who may have to pay higher prices and interest rates. Also the rents made available through these concessionary loans could have resulted in investment in uneconomic projects, with associated welfare costs.
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CHAPTER ONE
Introduction

1.1 SIGNIFICANCE AND OBJECTIVES

As the expansion of direct foreign investment (dfi) by United States corporations during the fifties and sixties was studied with much interest, the rapid growth of Japanese direct foreign investment since the late sixties has similarly attracted considerable attention. In the period between 1967 and 1974, the average annual growth rate of Japanese dfi was estimated at 31.4 per cent compared to 26.1 per cent for West Germany and 10.4 per cent for the United States.1 Since 1974, the annual growth rate of Japanese dfi has decelerated but has remained impressive. Between 1974 and 1982, it averaged more than 15 per cent and at the end of fiscal year 1982, the total value of Japanese dfi was estimated at $53.1 billion, compared to a value of $1.1 billion in 1967.2

In a study on Japan's emerging multinationalism, Ozawa contended that a key factor underlying the rapid growth of Japanese dfi is the financial support provided to Japanese firms by the Japanese government and the closely-controlled financial sector. He noted that at the end of March 1975, 34.2 per cent of overseas investment funds was from government-affiliated financial institutions and 32.8 per cent was from private financial institutions (mostly city banks).3 These funds have been used by Japanese corporations to finance their share of Japanese equity in

2. Figures are based on investments that were notified to and approved by the Ministry of Finance. Details are set out in Table II.1.
overseas ventures and to provide direct overseas loans to affiliates, as well as to local joint venture partners who used the funds to finance their equity ownership.

Ozawa relied on an extension of the "Japan Inc." concept of the Japanese economy to explain the relationship between the rapid rate of growth of Japanese dfi and the high level of use of government funding in such activities. This hypothesis implies central government leadership of a highly co-operative big business sector so as to constitute a homogenous, unified, undifferentiated force that purposefully, vigorously and effectively pursues the national interest, and which Ozawa referred to as the operation of a "macro-technostructure".

Although the "Japan Inc." hypothesis has been subjected to considerable criticism as being too simplistic, it nevertheless highlights the close and co-operative relationship that big business has had with a very supportive government, and which has been credited with the rapid growth and success of the Japanese economy in the post-war era.

This co-operative relationship between the Japanese government and big business has been attributed to a consensus on economic goals and the means of attaining them, and common ideology and values. From soon after the War until about 1970, the politicians, government bureaucracy and big business leaders were in substantial agreement on three matters: the high priority of economic objectives in societal goals; the high priority of relatively rapid growth in economic objectives; and the belief that the way to

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4. Ozawa (1979) p.48  
5. Patrick & Rosovsky (1976) p.48  
achieve economic growth was through the expansion of the capacity, capabilities and output of private business, especially big business. The government's main role was thus to be of help to private growth wherever possible.\(^7\)

The significance of Ozawa's proposition lies in its support of this concept of the government's role. Financing provided directly by the government to private business, and indirectly through its control of the banks, and which has been credited with facilitating a high rate of domestic investment and growth,\(^8\) has been applied to a similar purpose and end in dfi activities since the late sixties. The objective of this thesis is to examine the validity of this proposition.

Ozawa argued that overseas production has become an integral part of Japan's economic growth strategy but the majority of Japanese firms are incapable of undertaking direct foreign investment on their own. By Western standards, they are "immature" in size, technological sophistication, and financial strength. As a result, a multitude of supportive functions, both financial and managerial, are being mobilized or newly arranged by both government and industry to defray part of the private costs and to realize the social benefits of overseas production.\(^9\)

He asserted that perhaps the most important supportive feature in Japan's overseas industrial expansion is the role of the Japanese government in encouraging, assisting and occasionally even participating, albeit indirectly in private overseas ventures.\(^10\)

\(^7\) Patrick & Rosovsky (1976) p.52.
\(^8\) Ueno (1980), provides a detailed discussion on the effects of these financing policies on the development of Japan's industrial base; pp.396-405.
\(^9\) Ozawa (1979) p.xxi.
\(^10\) Ozawa (1979) p.33
In Japan the control of financing has always been an important device for implementing economic policies\textsuperscript{11} and, since the early Meiji years when Japan started to build her modern economy, banking was already seen as central to economic development.\textsuperscript{12} Under the feudal system that preceded the Meiji Restoration (1968), modernisation in the industrial sector was slow and hence the new government sought to develop a modern financial system, in which fund-supplying institutions were set up to stabilise Japan's currency and modernise its industries.

The outcome has been a banking system which has as its principal function, the financing of the corporate sector - that is, to provide the funds required by private industry for capital investment. In other words, the banking system in Japan was designed and functions as the main capital market for Japanese industry, with Japanese enterprises traditionally obtaining the bulk of their capital requirements from the banks.\textsuperscript{13} With rapid industrial expansion in the post-war period, this has resulted in the relatively low and, by Western standards, extremely risky equity-debt ratios of Japanese enterprises - a characteristic that has also been described as unique to Japanese corporations. In 1975, the average ratio of equity to debt capital was 16.2 per cent for Japanese enterprises compared with 52.1 per cent for the United States, 49.8 per cent for British and 35.7 per cent for West German firms.\textsuperscript{14}

This reliance on bank financing has also resulted in the development of a special relationship between large firms and their

\textsuperscript{11} Wallich and Wallich (1976) p.266.
\textsuperscript{12} Drucker (1975) p.232.
\textsuperscript{13} Patrick (1972) p.116; Drucker (1975) p.232.
\textsuperscript{14} Ozawa (1979) p.38.
banks. During the pre-war period special ties between specified banks and specified industrial groups were established resulting in a few giant business groups known as zaibatsu, with the banks playing a key financing role within each group.\textsuperscript{15} Although the zaibatsu were dismantled after the War, many large firms still belong to industrial groups known as keiretsu which are headed by a major bank. In other cases, one of the usually numerous banks from which large corporations borrow normally assumes the role of "principal bank", and a very close and intimate relationship between this bank and its client is maintained.\textsuperscript{16}

During the fifties and sixties, the Japanese government implemented its policies for economic recovery and rapid economic growth, through exercising its influence over the banking system and skilful use of the institutional relationships between the banks and private industry.\textsuperscript{17} If Japanese dfi activities are an important part of Japanese economic growth strategy as Ozawa suggested, it can then be argued that similar policies and measures have been adopted by the Japanese government to facilitate the rapid growth of Japanese dfi since the late sixties.

On the other hand, the provision of government financial assistance for Japanese dfi activities could have merely been the result of successful rent-seeking by some firms undertaking dfi. As a result of the political influence that they are able to exert on the government, rents are appropriated by these firms through the concessionary loans provided for their dfi activities. The considerable influence that "big business" in Japan has on the government has been established in a number of studies.

\textsuperscript{15} Caves and Uekusa (1976) p.496.
\textsuperscript{16} Wallich and Wallich (1976) p.273.
\textsuperscript{17} Wallich and Wallich (1976) p.266.
[Yanaga (1965); Curtis (1975); Trezise and Suzuki (1976); Yoshihara (1982)]. The pertinence of political pressure for the supply of government subsidised financing has also been noted in the case of the ship-building industry. Despite the fact that by 1955, Japan had already become the world's largest ship-builder, subsidies were increased, and in the period between 1955 and 1972, the largest share of subsidised loans (31.5 per cent) provided by the government through the Japan Development Bank for "industrial development" was directed to this industry.\(^{18}\)

Under such circumstances, therefore, as in the case of the ship-building industry,\(^ {19}\) it would appear that market conditions rather than the availability of subsidised funds has been the critical factor underlying the growth of Japanese dfi activities. The conclusion must then be that the rapid growth of Japanese dfi since the late sixties was not primarily due to the financial support provided by the Japanese government in association with the Japanese banks.

In the rather prolific literature on Japanese direct foreign investment in recent years, relatively little has been written about financing. In addition to Ozawa, Yoshino (1976) also discussed the issue of financing to some extent in his work on Japanese multinationals. Most other studies however, have been concerned with patterns of investment flows and economic theories to explain these flows.

Yoshino addressed the issue of financing among other factors in tracing the evolution of Japanese firms into multinationals. He noted that as early as the 1880s, the provision of heavy subsidies

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19. ibid.
for key industries was an important element in the government's strategy for industrialisation. In tracing the growth of Japanese foreign ventures in the oil industry, Yoshino found that Japanese ventures into oil exploration and development were negligible until the late sixties when the government clearly articulated its policy on oil exploration and committed itself to providing public funds to share the risks with Japanese private interests. In the petrochemical industry, Yoshino noted that the banks of industrial groups were quite willing to support joint projects sponsored by several firms within the group, which was important in overcoming the critical entry barrier of large capital requirements.

Several other studies have also noted the financing role of the Japanese government and the banks in dfi [Sekiguchi (1979); Yoshihara (1978), (1982); Tsurumi (1973)]; but as in Ozawa's study, did not furnish any empirical evidence which shows that the availability of such funds had significantly affected the dfi decisions of a firm. To-date there appears to have been no comprehensive study of the financing of Japanese dfi and its implications for the growth of Japanese investment activities overseas.

This thesis is an attempt to fill this gap in knowledge. The study will focus on Japanese dfi in two industries - resource development and processing, and electronics manufacturing - to provide a comparative analysis. It will examine the investment and financing activities of a sample of Japanese firms undertaking dfi, to establish the significance of the Japanese government's

financing role and whether it had significantly facilitated Japanese dfi in these industries. The economic costs and benefits of the financial support provided by the government will also be examined.

1.2 RESEARCH APPROACH AND SCOPE OF STUDY

In general, there is very little published information on the financial activities of firms. This was clearly shown in the few studies that have been undertaken on the financing of US dfi [Safarian (1966); Behrman (1962); Brash (1966); Dunning (1958)]. In all these cases, the authors had to rely on a survey of firms to gather information. Perhaps the lack of published information has also contributed to the dearth of research on the financing of Japanese dfi. The principal source of information for this thesis, therefore, is from a series of interviews conducted with senior executives of Japanese firms that have undertaken dfi and of financial institutions - both private and government-owned - that have provided financing. Details of the fieldwork program, the questions discussed and the organisations contacted are set out in Appendix I.

The dramatic growth of Japanese dfi has been closely associated with investment in resources development to secure supply of raw materials and the establishment of overseas manufacturing facilities to reduce production costs or overcome trade restrictions. Growth of dfi in "commerce" in the United States and Europe as a result of trade expansion has also been another key element. A detailed analysis of the major developments and features of Japanese direct foreign investment activities is set out in Appendix II.
The support of the Japanese government has been most important and direct in dfi in resources development. Even during the 50's and 60's when Japanese dfi in general was restricted, the Japanese government actively promoted several resource development projects which accounted for a large proportion of Japanese dfi during this period. In 1971, the Ministry of International Trade and Industry published a White Paper on Resources in which the government's policies on promoting resources development were formally expressed. In this report a number of government institutions, including the Export-Import Bank, the Overseas Economic Co-operation Fund, the Petroleum Development Agency and the Metal Ore Exploration Promotion Agency were listed as being involved in implementing government policies through providing financial assistance for resource exploration and development. In addition to direct funding, the government has also sought to promote dfi in resource development through special tax incentives. Therefore, in order to have a meaningful study of the financing role of the Japanese government in promoting dfi, the focus must be and will be, on dfi in resources development where this role appears to have been most prominent.

To provide a comparison of the extent and impact of government influence and financial support for dfi in resources development, it was decided that the financing of dfi in another industry - either a manufacturing or service industry - should be examined. Although dfi in services, especially commerce has been very significant, a manufacturing industry would be a more relevant comparison as the risks and capital involved in dfi in manu-

facturing operations are generally greater than in services, and concomitantly, like resources projects, the issue of financing would be more critical to the decision to proceed with an investment. It was also decided not to extend the study to a third service industry as this could make the survey too large and cumbersome. More importantly, however, it was felt that its inclusion would not add much to the findings of this thesis concerning the financing role of the Japanese government and its impact on the growth of Japanese dfi. Instead, it is hoped that, by concentrating on two industries, the study will be sufficient to adequately demonstrate how the Japanese government, in association with the banking sector, have responded to the financing needs of Japanese firms as they pursued different investment objectives.

Among the manufacturing industries, Japanese dfi in the electronics industry has been very significant during the seventies with potential for further growth into the eighties. 25 Dfi in the industry is extensively distributed among developed as well as developing countries; and has been undertaken by a large number of firms ranging from the leading firms with global networks of manufacturing subsidiaries to the small component manufacturer venturing overseas to supply some of these subsidiaries. Also in contrast to dfi in resources development, the risk capital involved is relatively small and the investment decision is not related to the consumption of raw materials in Japan.

Hence, because of its growing significance in dfi in recent years and to provide a basis for comparison with dfi in resources development, the electronics industry was selected for this study. It should be noted however, that because of the much more

significant role that the Japanese government has had in financing resources development in comparison with the electronics industry, the main focus of this thesis will be on resources development and the interest in the electronics industry is for comparative purposes only.

For the purposes of this study, direct foreign investment (dfi) includes all overseas investments associated with some degree of management control either through representation on the Board of Directors or direct management or which confers to the investor, rights other than those of an ordinary share-holder such as marketing and distribution or access to development of technology. This definition is wider than that used by the Australian Bureau of Statistics (ABS) which is:

Investment in Australian branches of foreign enterprises by head offices and other related foreign enterprises; and broadly speaking, investment by related foreign enterprises in companies in Australia in which 25 per cent or more of the equity is owned by a single foreign enterprise or group of related foreign enterprises.26

However, it is more in line with the definition used by the Ministry of Finance in Japan, from which approval has to be obtained for major dfi proposals. Direct investment abroad is defined as investment where the share of Japanese capital ownership exceeds 10 per cent in the case of a single Japanese investor or 25 per cent in the case of multiple Japanese investors or otherwise investment which meets other conditions such as the sending of executive members or the provision of technology etc.27 The wider definition is used because this thesis is concerned with studying Japanese policy-making and its implementation as well as Japanese corporate decision-making.

26. This definition is used in all publications by the ABS on direct foreign investment in Australia.
27. Sekiguchi (1979), p.16.
1.3 THESIS OUTLINE

In the thesis, a model of the financing decision of a firm is constructed and used as the basis to evaluate the behaviour of Japanese firms in undertaking dfi in resources projects and electronics manufacturing. A detailed examination of the role of the Japanese government in particular, as well as the Japanese banks, in financing these activities and the associated economic and welfare effects follow.

In Chapter 2, a model of the financing decision in a direct foreign investment venture is developed. In the process, the principles of the theory underlying the model and the key factors in the financing decision and their relationships are discussed. As a study of the role of government concessionary financing is the principal objective of this thesis, the effect of such loans on the financing decision is highlighted.

In Chapter 3, the focus is on the motives underlying the dfi activities of the Japanese firms. Various theories of dfi and alternative forms of investment available will be examined, and using information obtained from the survey concerning investment behaviour, objectives and level of equity participation, the underlying motives of Japanese firms undertaking dfi in resources development and electronics manufacturing will be discussed in terms of these theories. In the process, the analytical framework developed by Ozawa to support his contention that financing was a key factor underlying the rapid growth of Japanese dfi activities will also be examined.
The financing activities of the Japanese firms are examined in Chapter 4. The objective is to determine the significance of financial assistance provided by the Japanese government for dfi activities. By identifying the sources of finance employed and the factors determining the choice of financing, the relative importance of Japanese government funds can be assessed. The use of alternative sources of finance, developments in financing strategies and expected future trends are also discussed.

Chapter 5 examines the inter-relationships among the Japanese government, Japanese banking system and the firms undertaking dfi, and how these relationships affect the financing of dfi. As the Japanese banks have rapidly expanded their international operations during the 1970s, the effects that this development is expected to have on their relationship with the Japanese firms and future dfi financing are also discussed.

In Chapter 6, the focus is on the role of the Japanese government in financing dfi in resources developments where the major share of government funds has been allocated. To identify the objectives of such government intervention and the means by which such policies have been implemented, the various forms of government financing available and their underlying policy objectives are discussed. This is followed by an estimation of the subsidy provided by these measures, and finally, the effectiveness of these government policies in promoting Japanese dfi in resources development is evaluated.
In addition to the direct costs estimated in Chapter 6, the provision of concessionary government financing has other economic effects in terms of allocation of resources and pricing among sectors. The concern of Chapter 7 is to study these welfare effects on both the Japanese and host country economies. An analysis is made of whether, and how the policy on concessionary financing could have been dominated by national welfare considerations, or the rent-seeking behaviour of the Japanese investors, and their economic consequences.

The main conclusions of the thesis are summarised in Chapter 8.
CHAPTER TWO
The Financing Decision

A conceptual model of the decision-making processes of Japanese firms undertaking direct foreign investment is developed in this chapter. The model forms the basic framework for detailed analysis of the roles of the Japanese government and the Japanese banking system in the subsequent chapters.

There are a number of competing models to explain the financing behaviour of firms such as shareholders' wealth maximisation [Van Horne (1976); Copeland & Weston (1983)] managerial utility maximisation [Donaldson, (1963); Jensen & Meckling (1976)] and the behavioural model [Cyert & March, (1963)]. The conceptual framework in this chapter is based on the shareholders' wealth maximisation model as it is felt that in spite of its limitations, the model is very well suited for further development to explain the behaviour of Japanese firms engaging in dfi.

In the first section of this chapter the principles of the theory which have been developed on assumption of stockholder wealth maximisation will be discussed. This basic model will then be extended to show how the provision of government subsidised funds and other considerations involved in dfi activities, such as foreign exchange and political risks, affect the financing decisions of Japanese firms.

1. Finance theory upon which the stockholder maximisation model is based is still very controversial and inadequate to explain certain business practices such as the existence of an optimal capital structure [Brealey & Myers (1981) p.739; Copeland & Weston (1983) p.470].
2.1 CAPITAL STRUCTURE AND THE COST OF CAPITAL: THEORY

Funds for investment are provided to a firm by investors who hold various types of claims on the firm's cash flows, the principal being shareholders and debt (bond) holders. In return for their funds, shareholders have management control, that is control of investment decisions, and are entitled to the residual earnings of the firms after all other claims have been met. Debt holders on the other hand receive a fixed rate of interest and have no direct control of the firm's activities.\(^2\)

As each investor category is subject to a different type of risk, they require a different expected rate of return to induce them to provide funds to a firm. The required rate of return is the opportunity cost to the investor of investing in other projects of equivalent risk. As shareholders are in a position to decide whether to accept or reject an investment project, they will accept only those projects which increase their expected utility of wealth. Each project must earn, on a risk-adjusted basis, enough net cashflow to pay investors (debtholders and shareholders) their expected rates of return, to repay the principal amount which they originally provided and to have something left over which will increase the wealth of existing shareholders. The minimum risk-adjusted rate of return which a project must earn in order to be acceptable to the shareholders is the cost of capital.

The amount of investment undertaken by a firm seeking to maximise shareholder's wealth is illustrated in Figure 2.1. The marginal efficiency of investment schedule is the demand curve for investment capital. The supply of capital represented as the

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2. Except for various provisions in the bond which may constrain shareholders' activities.
Figure 2.1

Shareholders' Wealth Maximisation: Optimal Investment

The marginal cost of capital curve is assumed to be infinitely elastic. Implicitly the projects are assumed to have equal risk. Therefore, the firm faces an infinite supply of capital at the rate $E(R_j)$ because it is assumed that the projects it offers are only a small portion of all investment in the economy, and hence they do not affect the total risk of the economy nor the total supply of capital. The optimal amount of investment for the firm seeking to maximise shareholders' wealth is $I^*_j$ and the marginally acceptable project must earn at least $E(R_j)$. It can also be seen from Figure 2.1 that for a given schedule of investments, an increase in the cost of capital to $E(R_m)$ will result in less investment. Given this relationship between the cost of capital of a firm and its investment decision, the next question is whether in the choice of financing of its investments, a firm can affect its cost of
capital. If a firm is able to minimise its cost of capital through some judicious mixture of debt and equity financing, then the financing decision can maximise the value of the firm and an optimal capital structure exists. Otherwise, the financing decision is irrelevant. The following, first shows how a firm's mix of debt and equity financing affects the cost of capital and then derives the weighted average cost of capital of a firm.  

Value of a Levered Firm

In their seminal paper on cost of capital, corporate valuation and capital structure, Modigliani and Miller (1958) assumed that:

- capital markets are frictionless
- individuals can borrow and lend at the risk-free rate
- bankruptcy costs are nil
- firms issue only two types of claims: risk-free debt and risky equity
- all firms are assumed to be in the same risk class
- corporate taxes are the only form of government levy no wealth or personal tax is assumed)
- all cash flows are perpetuities (assuming no growth).

The value of an unlevered firm, that is, a firm with no debt, is obtained by discounting the expected value of a perpetual nongrowing stream of free cash flows after taxes which would accrue to the shareholders, at the appropriate risk-adjusted rate:

\[ V^U = \frac{E(FCF)}{\rho} \quad (2.1) \]

where \( V^U \) = the present value of an unlevered firm (i.e. all

3. The following is principally based on the discussion of the capital structure of a firm in Chapters 12 and 13 of Copeland and Weston (1983).
equity)

\[ E(FCF) = \text{the perpetual free cash flow after taxes} \]
\[ \rho = \text{the discount rate for an all equity firm.} \]

In terms of the accounting definition of profit, the perpetual after-tax free cash flows can be expressed as:

\[ FCF: (\bar{R} - \bar{VC} - FCC - dep)(1 - r_c) = NOI(1 - r_c) \]

where \( \bar{R} = \text{revenue} \)
\( \bar{VC} = \text{variable costs of operations} \)
\( FCC = \text{fixed cash costs} \)
\( dep = \text{non-cash charges} \)
\( r_c = \text{corporate income tax rate} \)
\( NOI = \text{net operating income} \)

and the value of an unlevered firm can also be written as:

\[ V_U = \frac{E(NOI)(1-r_c)}{\rho} \]  

(2.2)

Next, assuming that the firm issues debt, the after-tax cashflows must be split between debt holders who receive interest on debt \( r_D \) and the shareholders who receive the balance.

The total cashflows accruing to them can be calculated as follows:

\[ (\bar{R} - \bar{VC} - FCC - dep - r_D)(1 - r_c) + r_D \]
\[ = (\bar{R} - \bar{VC} - FCC - dep)(1 - r_c) - r_D + r_D r_c + r_D \]
\[ = NOI(1 - r_c) + r_D r_c \]

The first part of this stream, \( NOI(1 - r_c) \) is exactly the same as the cashflows for an unlevered firm with exactly the same risk.
Therefore it can be discounted at the appropriate risk adjusted
rate \( p \). The second part of the stream of cashflows, \( rDc \) is assumed to be risk free and should be discounted at the before tax cost of risk-free debt \( k_d \). Consequently the value of the levered firm is the sum of the discounted value of the two types of cash flow which it provides:
\[
VL = \frac{E(\text{NOI})(1-r_c)}{\rho} + \frac{rDc}{k_d} \quad (2.3)
\]

Since \( rD \) is the perpetual stream of risk-free payments to debt holders and \( k_d \) is the current before tax market-required rate of return for the risk-free streams the market value of debt, \( B \), is
\[
B = rD/kd \quad (2.4)
\]
and equation (2.3) can be rewritten as:
\[
VL = Vu + r_cB \quad (2.5)
\]
The value of the levered firm, \( VL \), is therefore equal to the value of an unlevered firm, \( Vu \), plus the present value of the tax shield provided by debt, \( r_cB \). This means that where corporate taxes are paid, the value of a firm can be increased through the use of debt and financing considerations are not irrelevant.

**Weighted Average Cost of Capital**

In determining the cost of capital of a levered firm it is assumed that shareholders will require the rate of return on new projects to be greater than the opportunity cost of funds supplied by them and debtholders. From Equation (2.3), the change in the value of levered firm \( \Delta V_L \) with respect to a new investment \( \Delta I \) is
\[
\frac{\Delta V_L}{\Delta I} = \frac{(1-r_c)}{\rho} \Delta E \left( \frac{\text{NOI}}{\Delta I} \right) + r_c \frac{\Delta B}{\Delta I} \quad (2.6)
\]
If the new project is accepted, the change in the value of the firm, $\Delta V^L$, will also be equal to the change in the value of original shareholder's wealth, $\Delta S^0$, plus the new equity required for the project, $\Delta S^U$, plus the change in the value of bonds outstanding, $\Delta B^0$ plus new bonds issued, $\Delta B^U$:

$$\Delta V^L = \Delta S^0 + \Delta S^U + \Delta B^0 + \Delta B^U \quad (2.7a)$$

Alternatively, the changes with respect to the new investment are:

$$\frac{\Delta V^L}{\Delta I} = \frac{\Delta S^0}{\Delta I} + \frac{\Delta S^U}{\Delta I} + \frac{\Delta B^0}{\Delta I} + \frac{\Delta B^U}{\Delta I} \quad (2.7b)$$

As both old and new debt are assumed to be risk free the change in the value of new debt is zero ($\Delta B^0 = 0$). Also, the new project must be financed with either new debt or new equity or both ($\Delta I = \Delta S^U + \Delta B^U$). Incorporating these two points, Equation (2.7b) can be re-written as.

$$\frac{\Delta V^L}{\Delta I} = \frac{\Delta S^0}{\Delta I} + \frac{\Delta S^U}{\Delta I} + \frac{\Delta B^U}{\Delta I} = \frac{\Delta S^0}{\Delta I} + 1 \quad (2.8)$$

In order for the project to be acceptable to original shareholders, it must increase their wealth. Therefore they will require that

$$\frac{\Delta S^0}{\Delta I} = \frac{\Delta V^L}{\Delta I} - 1 > 0 \quad (2.9)$$

which is equivalent to $\frac{\Delta V^L}{\Delta I} > 1$. Imposing this condition on Equation (2.6), it becomes:

$$\frac{\Delta V^L}{\Delta I} = \frac{(1-r_c)}{\rho} \Delta E \frac{(\bar{NOI})}{\Delta I} + r_c \frac{\Delta B^U}{\Delta I} > 1$$

By re-arranging the terms, we have

$$\frac{(1-r_c)\Delta E(\bar{NOI})}{\Delta I} > \rho(1 - r_c \frac{\Delta B^U}{\Delta I}) \quad (2.10)$$
The left hand side of (2.10) is the after-tax change in net operating cash flows brought about by the new investment, in other words the after-tax return on the project. The right hand side is the opportunity cost of capital applicable to the project, that is, the weighted average cost of capital of the firm (WACC). As long as the expected return is greater than the cost of capital, current shareholders' wealth will increase. Therefore, the weighted average cost of capital is:

\[ \text{WACC} = \rho (1 - r_c \frac{\Delta B}{\Delta T}) \quad \ldots \] (2.11)

As with Equation (2.5), the definition of the WACC of a firm (2.11) also shows that if the corporate tax rate is zero, the cost of capital is independent of capital structure (the ratio of debt to total assets). With the payment of corporate taxes, however, the cost of capital declines as the proportion of new investment financed with debt increases and the value of the levered firm reaches a maximum when there is 100 per cent debt financing (so long as all of the debt is risk free).

Figure 2.2 graphs the weighted cost of capital and its components - cost of debt, \( k_d \), and cost of equity, \( k_e \) as a function of the capital structure/ratio of debt to equity. The weighted average cost of capital is invariant to changes in capital structure in a world without corporate taxes (Figure 2.2a); however, with taxes it declines as more and more debt is used in the firms capital structure as shown in Figure (2.2b). In both cases, the cost of equity capital increases with higher proportions of debt. This is because increasing financial leverage implies a riskier position for shareholders as their residual claim on the
firm becomes more variable. The shareholders therefore, require a higher rate of return to compensate for the extra risks involved.

**Optimal Capital Structure**

Contrary to the theories just presented that capital structure is irrelevant, or that a firm should carry 100 per cent debt, empirical evidence shows that firms behave quite differently. It has been observed that companies in various industry groups appear to use leverage as if there is an optimal range appropriate to each group and that while there are significant intercompany differences, the average use of leverage by broad industrial groups tends to follow a consistent pattern over time. Various explanations for the existence of optimal capital structures that are not 100 per cent debt financing have been put forward such as
costs of financial distress including bankruptcy costs, agency costs, option pricing and signaling hypotheses. The first of these hypotheses, the costs of financial distress will be discussed in the following.

A firm that borrows more increases the odds of financial distress. Financial distress occurs when promises to creditors are broken or honored with difficulty and sometimes it can lead to bankruptcy. Even without bankruptcy and the costs associated with it, financial distress is costly as the conflicts of interest between debt-holders and shareholders may lead to poor operating performance and investment decisions. Shareholders acting in their narrow self-interest may be able to gain at the expense of creditors by various measures which reduce the overall value of the firm, such as reducing equity capital through higher dividend payouts or undertaking very high risk investments. Investors in highly levered firms would be concerned about the firm falling into financial distress and this would be reflected in the current market value of the firm's securities. Taking these costs into consideration, the value of a levered firm is

\[ V_L = V_U + \pi_c^B - \text{Costs of financial distress}. \]

The costs of financial distress depend on the probability of distress and the magnitude of costs encountered if distress occurs.

Figure 2.3 shows how the trade-off between the tax benefits and the costs of financial distress associated with leverage determines the optimal capital structure. The dashed lines are the Modigliani-Miller results, where the weighted average cost of capital (in a world with only corporate taxes) declines with leverage. The solid lines show what might happen when costs of
financial distress are introduced. At moderate debt levels the probability of financial distress is trivial and so the costs are small and tax advantages dominate. Beyond some point as the proportion of debt in the firm's capital structure is increased, the probability of financial distress increases rapidly with additional borrowing. Consequently the return required by debt holders $R_d$ increases sharply and this in turn results in a "U-shaped" weighted average cost of capital (solid line $WACC'$) and an optimal capital structure $(B/(B+S))^*$. The theoretical optimum is where the marginal tax gain from leverage is equal to the marginal costs of financial distress.

In summary, according to the shareholders' wealth maximisation model, the cost of capital of a firm is not affected by its sources
of funds in the absence of corporate taxes and bankruptcy costs. Where corporate taxes are paid, the value of a firm can be increased through the use of debt financing and its cost of capital reaches a minimum with 100 per cent debt. The existence of bankruptcy costs however offsets the tax benefits derived from leverage and results in a "U-shaped" cost of capital function and an optimal capital structure of less than 100 per cent debt for a firm. Under these circumstances, firms would be expected to operate within a range of debt-equity ratios which minimises their cost of capital. Hence, the marginal cost of capital for a firm E(Rj) in Figure 2.1 would be the minimum point of the U-shaped WACC' curve in Figure 2.3.

2.2 FACTORS AFFECTING FINANCING DECISION

In choosing a financing strategy for an investment, the criterion according to the shareholder wealth maximisation model must therefore be "minimum financing costs". The financing option that has the lowest expected costs would maximise expected returns from the project and therefore maximise the value of the project and accordingly shareholder's wealth.

If capital markets are perfectly integrated, the risk-adjusted cost of all financing options for a given capital structure and investment portfolio of a firm would be the same - that is, its weighted average cost of capital (WACC in Figure 2.3). However it is generally accepted that because of government regulation, capital markets, especially across international boundaries are not
perfectly integrated\textsuperscript{4} and therefore, through sound financial planning, a firm can minimise its cost of funds.

However in addition to expected costs, the level of risk exposure associated with a financing plan must also be considered. For a firm financing an investment overseas, it has to consider its exposure to foreign exchange risks and political risks as well as normal business risks encountered in domestic investments. In spite of lower expected costs; a financing plan may still be rejected because the resulting risk exposure of the firm may be unacceptable to management.

To illustrate, consider the following example. As a result of the low interest rate policy pursued by the Japanese government, and restricted access to Japanese capital markets, the Japanese firm planning an investment overseas may find that the use of Japanese bank loans which are denominated in yen have the lowest expected cost. However, the resulting foreign exchange and financial risk exposure of these loans are considered to be unacceptable to the firm. In consequence, project financing which has a higher expected cost but allows the firm to minimise its risk exposure is preferred.

Foreign exchange and political risks result primarily from conducting business across national boundaries and can significantly affect the expected return from an investment. In the following the nature of these risks and how they affect the financing decision will be discussed.

\textsuperscript{4} Rodríguez and Carter (1979) p.226.
Foreign Exchange Exposure

As soon as a firm decides to maintain a physical presence in a foreign country, it is exposed to foreign exchange risks. The future value of its assets that are located abroad and liabilities that are denominated in foreign currencies will depend on the relative values of these currencies. In a similar fashion, the cashflow surpluses or deficits accumulated by its overseas operations in foreign currencies are subject to foreign exchange exposure.

Theoretically, expected differences in exchange rates between any two countries are completely offset by differences in interest rates - interest rate parity. If capital markets are integrated, arbitrage will ensure that the real cost of funds in all capital markets are the same. However, as mentioned above, government regulations often create imperfect capital markets in practice, for example, by limiting access to domestic markets and hence cause real differences in the costs of funds. Also local interest rates in nominal terms combine a real rate and an anticipated inflation factor. Relative inflation vis-a-vis the rest of the world may result eventually in depreciation of the currency, but there is not a one-to-one mapping of relative inflation and depreciation in each time period. It is therefore possible for a firm to select a financial plan that would minimise the expected costs of financing for a dfi project, in line with the shareholders' wealth maximisation criterion.

5. A detailed analysis of the relationships among spot exchange rates, forward exchange rates, interest rates and inflation rates according to the interest rate parity theory is found in pp. 686-696.
The selection of a financing plan is however, affected by two major factors - the efficiency of financial markets and management's attitude towards exchange risks. In an efficient market all available information is quickly reflected in observed prices and there is little reward for individuals who try to anticipate the future. In this market the best forecast of future spot rates available is the current forward exchange rate. The relationship of the forward rate to the spot rate in turn equals the interest rate differential between the two currencies involved. Thus the money markets in which interest rates are determined implicitly anticipate fluctuations in the exchange rates also. Under these conditions the expected net effective cost of all financial options is the same. Although one financing option will be found to be superior to the others in hind-sight, it would be impossible to anticipate consistently which financial option would be best. In inefficient markets, on the other hand, appropriate analysis of currencies could result in significant foreign exchange profits.

In addition to the efficiency of relevant financial markets, the choice of specific financial options depends on the firm's attitude toward exchange risk. The critical question is how much is a firm willing to pay in terms of higher interest rates in order to avoid the risks of foreign exchange losses. Management attitudes can range from one extreme where any uncertainty of exchange rates is unbearable - “risk paranoid” - to the other where financial markets are considered merely as another arena for making profits - “the aggressive speculator”. The approach adopted by risk paranoid management would be to have zero exchange exposure. This typically means that if revenue is earned in local currency,
all financing will also be raised in local currency and any remaining exposure will be fully hedged. The "aggressive speculator" on the other hand is quite happy to establish "open" exchange positions to try and profit from market inefficiencies.

Research has shown that the most prevalent behaviour among US multinationals is what has been described as asymmetrical risk aversion - any foreign exchange loss carries a much larger weight in the manager's decision than a foreign exchange gain.\(^7\) In efficient markets in which expected foreign exchange gains equal expected losses for any financial alternative, the option in which the cost of financing appears as interest cost instead of exchange loss would be preferred. Even when a financial choice seems preferable because of inefficient markets, the option will not be chosen unless the chances of a significant exchange loss have a very small probability of occurring.

In efficient markets, one would expect the choice of financial options to be dominated by management's risk attitudes as the expected cost of all options would be similar. However if management considers the relevant financial markets to be inefficient, it may have to trade-off its risk preferences against the cost of achieving these preferences. Often, dominant financial strategies can be found in inefficient markets and exchange exposure policies that require a firm to forego these strategies would result in increased financing costs.

**Political Risks**

Other than foreign exchange risks, direct overseas investments are also subject to political risks - changes in host government

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policies which reduces the expected returns from an investment. These risks are usually associated with investments in developing countries having unstable governments and are related to funds repatriation and expropriation.

The repatriation of funds by an overseas subsidiary to its parent company may be blocked by exchange controls imposed by the host government in response to its balance of payments problems or to a state of war or revolution. These repatriation blocks may only be temporary in some cases and may also be overcome in varying degrees through swap arrangements or black market operations. Nevertheless they could significantly affect the rate of return from an investment and when such risks are substantial, they must be considered.

The more direct political risk is expropriation which generally refers to an increased and substantial involvement by the host government that causes a downward revision in the parent corporation's management role and cashflows from the overseas operation. The case of total nationalisation of ownership and complete involvement in the operation by the host government is a relatively infrequent extreme situation.

It is very difficult to assess the risk and expected value of such situations. For example, even at the extreme of nationalisation, the risk may range from complete uncertainty to a high probability of a takeover. Even given a takeover, there may be substantial variation in compensation, ranging from nothing to market value paid immediately. In addition assessing the probabilities tends to be very difficult and subjective.
Firms have employed a variety of techniques to try and alter the probabilities and the effects of expropriation. One category of approaches strives to create an impression that the company has long-term interests in the host nation and is keen to work together with the host government to achieve its developmental, political, and financial goals through the investment project. Such actions include joint ventures with host government, local investors and local banks; training and employment of locals in management; and procuring capital equipment and operating supplies locally.

Another category of approaches deters expropriation by ensuring that an operation will not be viable if the host government takes over. This is achieved by controlling inputs or outputs from the operation such as supply of raw materials, transportation, downstream processing and external markets. By having the local operation provide only one step in the process of selling a product, any unfriendly action by host government will also be unprofitable and therefore undesirable.

It is unlikely that the choice of any financial option will significantly alter the probabilities of expropriation but it could minimise losses from such action. One strategy followed by many investors in unstable environments is to pay whatever price is required for local financing or for unguaranteed outside financing supported by the local investment. In the event of nationalisation, the firm negates any debt obligation, leaving the lenders to try and recover their funds from the local government. While such a strategy limits losses from expropriation, the costs of financing could be considerably higher than alternative

financial options. However in inefficient markets and where such risks are considerable, it might still be worthwhile.

**Government Concessionary Financing**

For the Japanese firm undertaking a direct foreign investment the provision of concessionary loans by the Japanese government adds another dimension to the choice of a financing option. These loans could have an effect on the cost of financing as well as the level of foreign exchange risks and political risks of an investment.

The lower interest rates of the concessionary loans compared to market interest rates would make such loans very attractive in terms of minimising the costs of financing. As shown in Figure 2.4, the provision of concessionary loans at interest rate \( i_s \) below the market rate \( i_m \) would result in interest savings or additional profits represented by the shaded area \( P \). If interest cost is the only consideration, a firm should seek to maximise these subsidised loans (and the value of \( P \)) under the shareholder wealth maximisation rule.

Offsetting the favourable interest cost differential however could be increased foreign exchange exposure. If the loans are denominated in the Japanese currency and it is expected to appreciate strongly against the currencies in which revenue will be earned by the investment project, the expected loss on foreign exchange to repay the loan could be considerable. The level of employment of concessionary loans will then have to be determined amongst other considerations, by the trade-off between interest cost savings and foreign exchange risks that a firm will accept.
Concessionary loans provided by the government can also affect the political risks of a DFI project. Particularly in major investment projects, which have been designated as "national projects", and where the provision of concessionary loans is designed as part of an overall development aid package to the host country, the risks of expropriation or other unfriendly action could be reduced by the desire of the host government to maintain good relations with the Japanese government. In such investment projects, the Japanese investing firms may also be able to reduce losses resulting from expropriation or a state of war e.g. Iranian petrochemical project, as it would be easier to persuade the Japanese government to write-off their loans. In other cases, where an investment project is undertaken on a strictly commercial basis with no direct involvement of the Japanese government, the
effect would be reversed, and as the investing firms are held primarily responsible for the loans, be expected to repay the loan in full whatever happens to the investments. The losses from expropriation would be considerably higher than if local financing or project financing had been used.

Other than its impact on the financing decision, the availability of government concessionary loans could also affect the investment decision of a firm. So far the discussion of the financing decision has assumed that the decision to invest has already been made - that is the expected return from the investment is greater than its cost of capital. As shown in Figure 2.4, assuming that all projects have the same risk and $i_m$ is the marginal cost of capital, the project for which a financing plan is being considered lie on that section (DD*) of the marginal efficiency curve above $i_m$. The concessionary loans $I_r$ provided are intra-marginal and therefore do not affect the level of investment. There is an implicit assumption that the concessionary loans are rationed.

However, if the provision of concessionary loans results in a situation as shown in Figure 2.5 instead, then the level of investment would be increased from $I_J$ to $I^*$. The marginal cost of capital of the firm is reduced from $i_n$ to $i_s$ as a result of the government subsidy $P$ which is no longer intra-marginal. Therefore in addition to reducing the costs of financing, the provision of government financing has also resulted in an increase in the level of investment.

Ozawa's proposition that government financing has been instrumental in promoting Japanese DFI is based on this assumption of the effect of the subsidy on the investment decision of a
firm. However, it is also possible that the subsidy has been intra-marginal with no effect whatsoever on the investment decision as shown in Figure 2.4. This issue will be examined in subsequent chapters, using empirical data on the dfi activities of Japanese firms.

2.3 FINANCING DECISION

In this final section, a basic framework of the financing decision, in which all the inter-relationships of costs and risks are incorporated, will be developed. The objective is to merely set out the principle steps involved in deriving a solution to the financing problem based on the shareholders' wealth maximisation.
criterion - which is to minimise the cost of financing subject to the level of risk exposure that a firm is willing to accept.

The first step is to identify the various financial options available to the firm. For example, the firm may have a choice of borrowing from banks - domestic, local or international, issuing bonds or securities, project financing and using concessionary government loans. Taking into consideration factors such as maximum risk exposure, amount of funds involved, capital structure of the firm, capital market conditions, and relationships with financial institutions and the government, several most favoured options can be identified for further evaluation.

Each of these options should then be analysed to find out its expected value under various scenarios of exchange rate fluctuations (and interest rate fluctuations too, if floating rates are applicable), political situations - currency blocks and expropriation, and business performance. The difficulty in this process is in forecasting changes and assigning probabilities to the different scenarios.

The option which has the highest expected value would be optimal under the shareholder maximisation rule and should be selected. However each option would have different risk exposures - foreign exchange, political and business risks, under various scenarios. Depending on the risk-return utility function of management, it is possible that an option with lower expected value may be considered optimal because of a more acceptable risk profile.

In practice, and as will be shown in Chapter 4, there has been dominant financial strategies in Japanese dfi activities. This could be due to the imperfections in the Japanese capital market
which have made certain strategies distinctly superior to others. In such a situation, the financial decision-making process for a firm would be relatively straight-forward.
CHAPTER THREE

Direct Foreign Investment: Motives and Policies

Before a study is made of the financing of Japanese dfi activities, it is desirable to first examine the underlying motives and policies of Japanese firms undertaking dfi, and to explain them in the context of current theories of dfi. This will then facilitate an evaluation of the analytical framework developed by Ozawa to support his contention that financing was a key factor underlying the rapid growth of Japanese dfi since the late 1960's.

To provide theoretical support for his proposition, Ozawa developed an analytical framework which emphasizes a comparative advantage in factors-endowment or alternatively better production conditions as the motivational force; and the existence of what he calls a "macro-technostructure" to facilitate dfi by Japanese firms. The financial support provided to Japanese firms is a key element of this macro-technostructure.

In this chapter, the main concern is to examine the empirical evidence obtained from the survey undertaken for the purposes of this thesis as well as from other published sources in terms of conventional theories of dfi and Ozawa's analytical framework. As discussed in Chapter 1, the scope of the survey was restricted to dfi in resources development (thirteen firms were interviewed) and electronics manufacturing (nine firms). The approach is to examine and identify the investment behaviour, objectives and level of equity participation of these firms, and the resulting investment profile of these firms will then be used in the evaluation.
The main theoretical approaches to explaining dfi and the multinational enterprise (MNE), and the key features of Ozawa's analytical framework will be set out in the first two sections of the chapter. This will be followed by a detailed analysis of dfi in resources development and electronics manufacturing. In the final section, the applicability of these theories and Ozawa's model to explain Japanese dfi activities in these two industries, will be examined.

3.1 THEORIES OF DFI

Various theoretical approaches used to explain the direct foreign investment activities of firms, have focused on international capital movements [Ohlin(1933)], the product cycle [Vernon(1966)], and internalisation theory [Hymer(1960,1976), Kindleberger(1973), Caves(1971), Buckley & Casson(1976), Williamson(1975), Dunning(1979), Rugman(1981)]. As multinationals have become increasingly important since the 1960s however, dfi theory has become dominated by the development of internalisation theory to explain the existence of the MNE.

International Capital Movements

The Heckscher-Ohlin factor-endowments theory of international trade [1] argued that international capital movements in and out of countries occur in response to the different interest rates prevailing in those countries. Interest rates would vary according to differences in factor endowment ratios of labour and capital, and as capital moves from low-interest to high-interest countries, equilibrium is achieved. With perfect international markets there

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1. This approach was originated by Heckscher(1919) and expanded by Ohlin in _Inter-regional and International Trade_ (Cambridge, 1933)
would be one world interest rate, but because risks of default and confiscation vary, each country requires different risk premiums. Ohlin qualified his theory by taking into account certain institutional and technical barriers to equilibrium. Nevertheless the theory explains international capital movements and not direct foreign investment.²

Product Cycle Approach

In the initial model of the product cycle hypothesis, Vernon (1966) suggested that new products would appear first in the most advanced country (USA) because demand from discretionary spending on new products arising from high income, and substitution of new capital goods for expensive labour, would be most easily transmitted to local entrepreneurs. Consequently, the "new product stage", where an unstandardised product with a low elasticity of demand is produced on an experimental basis, occurs in the USA.

The second stage is the "maturing product", where it begins to be standardised and the need for flexibility on both supply and demand sides decline. The possibilities for economies of scale lead to expansion in production and this is matched by increasing demand as the product becomes cheaper. The market begins to appear in other advanced countries and is initially satisfied by exports from the USA. Eventually cost factors begin to dictate that these foreign markets should be serviced by local production and the emergence of indigenous producers adds a "defensive" motive to the advantages of investment by US producers. As a result other advanced countries are the first recipients of US direct investment. In the third stage, a "standardised product" emerges which sells entirely on the basis of price competitiveness. The imperative now is to produce at the lowest cost, and as a result,

the labour-intensive stages of production are carried out through dfi, in less-developed countries so that labour costs are minimised.

With the emergence of non-US MNEs, and the developing, maturing and standardising of products almost simultaneously, Vernon(1977) modified his hypothesis to emphasise the oligopolistic structure in which most MNEs operate and attempts to forestall entry into the industry by new firms. However, it is still considered as being over-deterministic and programmatic, requiring further modification to take into account the increasing sophistication of global competitive interaction.3

Internalisation Theory

Although internalisation as an explanation for the MNE has its roots in Hymer's dissertation in 1960, most of the development of this theory was undertaken more than a decade later. Attempts have been made to synthesise various models and produce a comprehensive theory of international production by Dunning(1977), but there is still no total agreement as to the constituents of a theory.4 Nevertheless there is general acceptance of a number of key elements to explain the growth of the MNE.

Essentially, internalisation theory demonstrates that the MNE is an organisation which uses the internal market to produce and distribute products in an efficient manner in situations where a regular market fails to operate [Rugman(1982)]. In particular, the MNE allocates intermediate products such as knowledge to desirable world markets. The internal market of the MNE is a device which

permits the organisation to assign property rights in knowledge to itself. This is necessary as there is no regular market for the pricing of knowledge which is a public good. The generation of this knowledge however involves the firm in private costs, and it is therefore desirable for the firm to create a monopolistic internal market where the knowledge advantage can be developed and explored in an optimal manner on a world-wide basis.

Market failure associated with the pricing of knowledge or similar firm-specific intangible advantages occur in areas of technology, managerial skills, corporate organisational structures and other aspects of the internal market of the firm. The firm serves as an alternative to a market [Williamson(1975)]. It develops its own managerial hierarchy to solve the allocation and distributional decisions that a regular market makes automatically, but it does so inside the firm and therefore at a greater cost. The costs of running an internal market need to be weighed against the advantages of internalisation in order to find the point at which the growth and profitability of the firm is limited.

All these arguments carry over into an international dimension as the world markets provide the MNE with the opportunity for greater sales and revenue than within the home nation alone. It is important that the MNE retain the firm-specific advantage it has generated in its home market; so foreign subsidiaries tend to be branch plants of the parent firm. Control over its foreign subsidiaries and their integration into its world-wide internal market permits the MNE to avoid any dissipation of the firm-specific advantage.

In the earliest application of the market imperfections approach to explain the MNE, Hymer(1960) identified imperfections
in factors and goods markets, such as monopoly control of raw materials, or managerial or research skills, any one of which has led to the development of a firm-specific advantage for the MNE. Kindleberger (1969) identified four main areas of internationally transferable advantages which enable the foreign entrant (MNE) to overcome its lack of knowledge of local conditions and compensate for the additional costs of operating at a distance. These areas are departures from perfect competition in goods markets, including product differentiation, marketing skills and administered pricing; departures from perfect competition in factor markets, including access to patented or proprietary knowledge and discrimination in access to capital and skill differences embodied in the firm; internal and external economies of scale, including those arising from vertical integration; and government intervention, particularly those forms restricting output or entry.

This analytical approach was extended by Caves (1971) to explain horizontal and vertical integration by MNEs. The horizontal MNE (a multi-plant firm which sprawls across national boundaries) exists because of the economies of multi-plant use of a firm's intangible assets, which cannot be easily or effectively traded at arm's length. Similarly, vertical MNEs (especially in the natural resources sector) are a response to the difficulties of working out arm's length contracts in small-numbers situations where each party has a durable and specific investment at stake. Evading problems of impacted information is also another explanation of vertical dfi. Caves also suggested that the critical Hymer-Kindleberger advantage was the ability to differentiate a product, thus enabling the firm to simultaneously service several international markets. This series of studies is often referred to collectively as the Hymer-Kindleberger-Caves industrial organisation model of dfi.
The notion of "internalisation" itself was coined by Buckley & Casson (1976) in developing the following theory of the MNE:

- Firms maximise profits in a world of imperfect markets;
- When markets in intermediate products are imperfect, there is an incentive to bypass them by creating internal markets. This involves bringing under common ownership and control the activities which are linked by the market;
- Internalisation of markets across national boundaries generates MNEs.

Given the firm-specific advantages which enable the firm to invest successfully abroad, the second critical element of internalisation theory is to show why the firm chooses to utilise them through dfi instead of exporting, or selling the rights to their use to other parties, through licensing agreements, management contracts, etc. The basis for the decision is profitability.

Dfi is preferred to exports when there are either positive factors such as lower labour costs, or negative factors such as trade barriers which deter production at home or encourage production abroad. In an "eclectic theory of international production", Dunning (1977, 1979, 1981) stated that it must be profitable for a firm to combine its firm-specific advantages with factor-endowments located in foreign countries, otherwise the foreign market will be served by exports.

It is argued that the firm will often prefer dfi to licensing as it cannot appropriate the full return from its utilisation because of imperfections in the market for knowledge [Hymer (1976)]. Such imperfections arise from the buyer being unable to assess the true worth of the knowledge to him until he is in possession of it,
lack of an institutionalised market for knowledge, and the
dependence of the value of knowledge on its secrecy. The seller
thus cannot induce competitive bids in order to appropriate the
full returns. Other reasons are the desire for control and the
danger that the buyer could become a competitor by using the
advantages in ways which have not been paid for. As a result,
licensing may incur heavy firm-to-firm transfer costs, including
costs of "policing" the transferred property rights [Davies(1977),
Buckley & Davies(1980)] - costs which do not arise in transfer
between parent and subsidiary. Where the costs of licensing is
perceived to exceed the costs of internalisation, dfi will be
preferred.

Rugman(1982) contended that control is the critical issue and
that contractual arrangements arise only when the risk of
dissipation of the firm-specific advantage of the MNE is low. This
occurs when the MNE is producing a standardised product or when
resale is difficult, for example when foreign markets are highly
segmented. The MNE is compelled to favour internalisation so as to
keep control over the use of its monopolistic firm-specific
advantage and thereby minimise competition. Contractual
arrangements such as licensing or joint ventures are fraught with
danger for an MNE, as they have the potential to destroy the firm-
specific advantage of the MNE, without which it ceases to be a
monopolist and runs the risk of being uncompetitive.

In summary, internalisation theory requires the fulfilment of
three conditions for a firm to engage in dfi. First, the firm must
possess net firm-specific advantages over firms of other
nationalities and which must be sufficient to offset the additional
costs of operating in a foreign environment. Second, it
must be more profitable for the company possessing these assets to use an internal market (taking into account the costs and benefits of internalisation) rather than externalise the property rights through contractual arrangements. Finally, assuming the first two conditions are satisfied, it must be advantageous for the firm to exploit its firm-specific advantages through production outside its home country rather than through exports.

3.2 OZAWA'S ANALYTICAL FRAMEWORK OF JAPANESE DFI

To provide theoretical support for the proposition that the financial assistance provided to Japanese firms by the Japanese government and the closely-controlled financial sector is a key factor to the rapid growth of Japanese dfi since the late 1960s, Ozawa presented an analytical framework based on Galbraith's industrial organisation theory.\(^5\)

According to this theory, overseas investment will result as large oligopolistic firms develop what Galbraith calls a "technostructure". The technostructure is a complex of skilled personnel and management which is hired by a corporation to provide a planning system built upon their collective intelligence and the authority of organisation. The efficiency-oriented business organisation is always seeking to eliminate market uncertainties, first at home and then overseas as its span of operations expand. Direct foreign investment is the means by which a firm's technostructure can follow its product to other countries, and thereby eliminate the uncertainties of international trade.

\(^5\) Ozawa (1979) pp. 41-75.
In the case of Japanese firms, Ozawa submits that the major manufacturing and trading companies have already grown large enough to form technostructures. In particular, the trading companies which are nothing but planning complexes of "collective intelligence" are the spearheads of Japan's multinationals. But many Japanese manufacturing ventures in the developing regions have been established by small and medium-sized companies which may be described as "pretechnostructural organisations". According to Ozawa, these firms have been able to do so because of the existence of a macroeconomic technostructure in the Japanese economy.

The "administrative guidance" of the Japanese government, the global information (commercial intelligence) networks of general trading companies, and the collective economic power of Japan's industrial groups are the major components of Japan's macro-technostructure. This unique structure, which has so effectively functioned to achieve the national goals of economic growth and trade expansion throughout the postwar period, is now being put to work to supplement Japanese industry with overseas production activities.

Operating within this macro-technostructure, the organisational and financial assistance given by the Japanese government and Japan's powerful trading companies to Japanese firms, and the widespread practice of mutual help and collaboration within, and also frequently between, different industrial groups in their overseas ventures has facilitated the relatively effective operations of Japan's multinationals despite the seeming individual weakness or 'immaturity' exhibited by many of them.

Ozawa also postulated that while the existence of a macro-technostructure explains how the rapid rate of growth experienced
in Japanese dfi activities was made possible, the motivations of such expansion are best explained in terms of an expanded factor-endowments model as presented by Kojima (1978) and the Ricardo-Hicksian model of industrialism. Kojima's model which is constructed within the framework of the Heckscher-Ohlin factor-endowments theory, asserts that corporate production activities are transferred across national boundaries because of a comparative advantage in factor endowments in the host country. In particular, Japanese firms in labor-intensive industries were motivated to move production to developing countries to take advantage of lower labour costs.

Not so dissimilar to the factor-endowments model, the decision criterion in terms of the Ricardo-Hicksian model is better productive conditions overseas than at home. The rapidly deteriorating productive conditions in Japan - the result of such negative factors as the appreciation of the yen, rising labor and energy costs, environmental decay, and shortages of industrial sites - have been decisive in forcing Japanese firms to locate their corporate production abroad. As the Japanese economy started to push against its physical limits of land and labor towards the end of the 1960's, Japanese firms responded by investing in other countries where these productive factors existed in abundance - "an escape from the Ricardo-Hicksian trap."

In summary, Ozawa's analytical framework of Japanese direct foreign investment emphasizes the motivational force exerted by deteriorating domestic production conditions on Japanese firms to relocate and the existence of a macro-technostructure to provide

the necessary support for carrying out these activities. The organisational and financial assistance provided by the Japanese government and the major trading companies are key elements of the macro-technostructure.

In his study of Japanese multinationalism Ozawa also conceded that there is an emerging pattern of overseas investment by large Japanese companies that fits the conventional monopolistic theory of direct foreign investment (Hymer-Kindleberger-Caves model). This theory states that direct foreign investment occurs in industries characterised by oligopolistic market structures in both home and host countries and is undertaken to exploit some type of firm-specific rent yielding attribute which a firm possesses. Ozawa contended that at the time of his study in the late 1970s, this type of investment accounted for only a small segment of Japan's overseas investment.10

In the next section empirical evidence will be examined to verify the validity of Ozawa's analytical framework and his position on the applicability of the monopolistic model to Japanese direct foreign investment activities.

3.3 DFI ACTIVITIES OF JAPANESE FIRMS

The main concern in this section is to identify the investment motives and policies of Japanese firms undertaking dfi in resources development and electronics manufacturing. The principal source of information will be from the thesis survey, but other published sources will also be referred to where relevant.

10. Ozawa (1979) p.44.
Resources Development

a) Investment Behaviour and Objectives

DFI in resources development was mostly undertaken by the major trading companies - such as Mitsubishi, Mitsui, C. Itoh, Marubeni and Sumitomo - until the mid-seventies, before the user companies - e.g. steel mills, utilities, aluminium smelters - began to take a greater interest. The following reasons were provided by interviewees to explain such investment behaviour.

Until the first oil crisis in 1973-74, the domestic economy was expanding at such a rapid rate that the user companies, especially the steel mills, were fully pre-occupied with domestic expansion, and did not have the managerial and financial resources for DFI in resources development. The trading companies, on the other hand, had been serving as import agents of these resources. With the rapid increase in consumption of raw materials in Japan, trading companies, in co-operation with their major customers, had sought to secure supply by extending long-term loans in return for guaranteed supplies.\(^{11}\) In some cases, the trading companies strengthened their positions further by acquiring a small equity share in selected foreign mining projects. In these minerals ventures, the trading companies sought to establish captive suppliers through whom they could supply the needs of major Japanese consumers.\(^{12}\) At the same time, the developers of these projects perceive benefits in terms of greater commitment by the trading companies to securing sales outlets for their production.

\(^{11}\) This type of financing came into being in later 1950's and was frequently used for the import of iron ore and nickel between 1962-64. [Sekiguchi (1979) p.28].

\(^{12}\) Also noted by Yoshino (1976) p.98.
By the mid-seventies, such arrangements where the trading companies undertake a small equity investment with the support of purchase commitments by, and loans from user companies, had become rather unsatisfactory. The trading companies had a number of difficult cases and with the rapidly increasing capital amounts required for dfi, were keen to reduce risks through joint participation with the user companies. The conflict between trading and user companies in pricing, which was exacerbated by the volatility of commodity markets, also contributed to this change in attitudes. A renewed sense of urgency for security of supplies resulting from the oil crisis, and availability of resources for dfi due to the slow-down in domestic expansion, led to the increasing incidence of dfi by user companies in joint-venture with trading companies. Also, in some cases, the foreign partners had insisted on equity participation by the buyers to ensure greater commitment to the project.13

Such arrangements where Japanese firms - trading and user companies - have invested together as a group, have been facilitated by the intermarket keiretsu grouping of Japanese firms. The majority of Japanese firms belong to inter-industry business groups which are headed in most cases by a major commercial bank and within which firms are linked through reciprocal shareholdings, lender-borrower and buyer-seller relations.14 In such situations the trading company normally serves as the leader of its group with the central role of organiser and co-ordinator of the project.15

13. For example, in the Quintette coal project, the Canadian partners had insisted on equity participation by the steel mills in addition to the trading companies.
task that they are very well suited for:

Because they have traditionally acted as intermediaries for the parties of different but mutually complementary interests, they are quick to discern those business opportunities that might be passed up by a single individual company. With their well-established business connections, they are also able to bring together related interests, especially within their own keiretsu group, but if necessary with other groups as well.16

An indicator of this situation perhaps is the fact that there has not been an investment by user companies without equity participation by trading companies.17

However, even under these different circumstances, the primary objective of trading companies in undertaking dfi in resources projects has remained substantially unchanged. As shown in Table 3.1, all the seven trading companies surveyed indicated that, in undertaking dfi, the predominant consideration has been to secure the marketing rights to a project. Two of these firms also stated that their company policy was to invest at the minimum equity level possible to achieve this objective. On the other hand, one firm felt that in recent years there has been a slight shift in company policy - that is, to invest in resources projects as a means of diversifying business activities.

Group investment in resources projects has not only been characterised by participation by member firms of the same business group - intra-keiretsu; but also by firms from different groups - inter-keiretsu. As dfi in resources development is mainly for the purpose of securing supplies (Table 3.1), the user companies (for example, steel mills) from different business groups strive to ensure that they remain cost competitive amongst themselves by

17. On the basis of all the projects covered in the survey.
participating together in a number of projects. The degree of formality in these arrangements varies among the different user groups but the dfi pattern has been very apparent among the steel mills, aluminium smelters and utilities in Australia.

The growth of inter-keiretsu group investment has also been credited with the development of the concept of "national projects". Through the substantial political pressure that participating groups can jointly exert, the Japanese government, has been induced to play a major role in these projects. Its involvement includes direct negotiations with the host country.

Table 3.1
Primary Motives for Dfi in Resources Development

<table>
<thead>
<tr>
<th>Marketing Rights</th>
<th>Security of Supply</th>
<th>Relocate Production</th>
<th>Direct Production</th>
<th>Other Profits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trading Companies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitsubishi</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitsui</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sumitomo</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Itoh</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marubeni</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nissho-Iwai</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Nichimen</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nippon Steel</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kobe Steel</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sumitomo Aluminium</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YKK</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPDC</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JCD</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiheiyo</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey of Japanese firms.
government on the terms and conditions of the project, and equity participation as well as the provision of a substantial proportion of funds required. The object of the exercise for the participating firms is to reduce the political risks of such projects and to share the financial risk with the Japanese government. An example is the Asahan aluminium project in Indonesia which was initiated by the Sumitomo group and is estimated to cost US$1,500 million. The Japanese government (37.5 per cent) and twelve Japanese firms (37.5 per cent) from six different groups together have 75 per cent of the equity interest in the project, with the Indonesian government having the other 25 per cent.18

Amidst the optimism for dfi during the late seventies, a couple of coal mining companies, (Taiheiyo and Matsushima) also ventured into Australia. In both cases they were invited to participate together with the trading companies, for the purpose of providing mining technology and expertise as the local partners were not coal miners themselves. The trading companies as usual provided organising and marketing expertise. However due to the current glut in the coal market, both projects have been deferred. One would expect that as a result of these set-backs, this type of Japanese dfi would continue to remain insignificant for some time.

Finally, since the world-wide economic recession in 1981-82, some Japanese companies have been re-assessing their policies on dfi in resources development. Estimates of expected demand for key raw materials in Japan have been continually revised downwards19

18. OECF (1982), Internal working paper.
19. Japan Economic Journal, 23/8/83 “Shift to oil substitutes will
and this has resulted in over-commitment by some user companies to relatively high-cost projects. Also the continued low price of oil, and hence other energy resources, especially coal, have meant that most of these dfi activities have been less profitable than expected.

In brief, Japanese dfi in resources development has been led by the major trading companies that were primarily interested in obtaining marketing rights. Since the mid-seventies, user companies have become more active, undertaking dfi together with trading companies, to secure raw materials. Such joint participation by trading companies and user companies have become progressively more important and have also moved from intra-keiretsu to inter-keiretsu groups. Group investments enabled the Japanese firms to take advantage of all the linkage opportunities arising from a project which any one individual firm would not be able to do. They also serve as an important means of spreading dfi risks. In more recent years the political pressure that inter-keiretsu groups can bring to bear on the Japanese government has resulted in direct participation by the government in dfi projects together with private Japanese companies.

b) Equity Participation

Notwithstanding constraints that may be imposed by host governments, the level of equity participation by Japanese companies in resource projects has traditionally been small, for the reasons discussed above. Also, a lack of experience and expertise in resources development overseas by these companies, coupled with the desire to reduce risks by spreading investments
over a number of projects have kept the equity interest of any one company in a project relatively small, normally less than 10 per cent. To illustrate, Table 3.2 shows the level of Japanese equity participation in the major resource projects in Australia.

However, equity participation by Japanese companies as a group in particular, and also individually in some cases, has become more significant, especially in the late seventies. For example, Japanese companies have 50 per cent of the equity interest in the Gladstone aluminium project (A$570 million), 40 per cent in the Gregg River (C$215 million) and 48 per cent in the Quintette (C$1.3 billion) coal projects in Canada. All these three projects were undertaken in the last five years. This compares with Japanese equity interests of 10 per cent in the Mt. Newman iron project which was developed in the late 60's and 6.2 per cent of Hamersley, which was acquired in the early 70's. Therefore, the growth in the total value of Japanese dfi in resources development observed in the last fifteen years was in part due to the increase in the average level of equity participation as well as the increase in the number of projects undertaken and the development costs involved.

There appears to be some differences among the trading companies as well as between the trading companies and user companies as a group, in their approach to equity participation. For example, Mitsubishi appear to be more willing to have relatively high levels of equity participation in some projects - e.g. 40 per cent interest in the Ulan coal project in Australia, 17.5 per cent in the Bintulu natural gas project in Australia,
Table 3.2
Level of Japanese Equity Participation in Major Resource Projects in Australia

<table>
<thead>
<tr>
<th>Japanese Projects</th>
<th>Number of Japanese Firms</th>
<th>Total Japanese Equity (%)</th>
<th>Average Equity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iron-ore</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mt Newman</td>
<td>2</td>
<td>10.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Hamersley</td>
<td>7</td>
<td>6.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Robe River</td>
<td>1</td>
<td>9.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Savage River</td>
<td>7</td>
<td>50.0</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Coal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theiss Dampier Mitsui</td>
<td>1</td>
<td>20.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Central Queensland Coal Associates</td>
<td>1</td>
<td>12.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Warkworth Mining Ltd</td>
<td>2</td>
<td>15.0</td>
<td>7.5</td>
</tr>
<tr>
<td>Ulan Coal Mine</td>
<td>1</td>
<td>40.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Drayton-Muswellbrook</td>
<td>1</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Lithgow Valley Colliery</td>
<td>2</td>
<td>15.0</td>
<td>7.5</td>
</tr>
<tr>
<td>Wallerawang</td>
<td>2</td>
<td>20.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Blair Athol</td>
<td>2</td>
<td>10.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Hail Creek</td>
<td>2</td>
<td>6.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Bird's Rock</td>
<td>3</td>
<td>50.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Mt. Arthur South</td>
<td>2</td>
<td>15.0</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Alumina/Aluminium</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worsley Alumina</td>
<td>3</td>
<td>10.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Gladstone Aluminium</td>
<td>5</td>
<td>50.0</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Uranium</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranger</td>
<td>4</td>
<td>25.0</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Sources: 1) Survey of Japanese Firms.
37.5 per cent in Savage River iron pellets project in Australia, whereas Marubeni have kept its level of equity participation to a minimum. There are various possible explanations for differences in investment policies among trading companies. Firms which have much greater experience and/or a relatively successful record in dfi, tend to be less risk averse and therefore more willing to have a larger equity share in a project. In cases, where marketing rights or share of production is directly related to equity share in a project, then the level of equity participation may be restricted by the sales capacity of a firm.

While the trading companies may jointly invest in a dfi project, these arrangements are very flexible and vary among projects. The user groups on the other hand, have a more consistent pattern of joint equity participation in projects. Among the user groups the most highly organised is probably the steel mills, especially among the largest five - often referred to as the "big five" - which together have about a 70 per cent share of the Japanese crude steel market (Table 3.3). In all the major coal and iron ore projects in which the steel mills have invested, the "big five" have taken up equity in direct proportion to their share of the Japanese market. In contrast to the steel mills, the aluminium producers are a much more loosely knit group. In the Asahan project five aluminium companies participated, in the Gladstone project in Australia two companies were involved, and in the Worsley alumina project in Western Australia, only one company invested.

20. Mitsubishi has reduced its interest to 7.5 per cent by selling 30 per cent to Japanese steel mills in the late seventies.
Table 3.3

Major Japanese Steel Mills - Production of Crude Steel
(1000 metric tonnes)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nippon Steel</td>
<td>31,994</td>
<td>33,582</td>
<td>31,682</td>
<td>29,970</td>
<td>27,051</td>
</tr>
<tr>
<td>Nippon Kokan</td>
<td>13,569</td>
<td>14,305</td>
<td>13,452</td>
<td>12,775</td>
<td>11,463</td>
</tr>
<tr>
<td>Kawasaki Steel</td>
<td>12,336</td>
<td>12,921</td>
<td>12,232</td>
<td>11,514</td>
<td>10,377</td>
</tr>
<tr>
<td>Sumitomo Steel</td>
<td>12,322</td>
<td>12,936</td>
<td>12,216</td>
<td>11,533</td>
<td>10,339</td>
</tr>
<tr>
<td>Kobe Steel</td>
<td>7,231</td>
<td>7,601</td>
<td>7,152</td>
<td>6,778</td>
<td>6,142</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>77,452</strong></td>
<td><strong>81,345</strong></td>
<td><strong>76,734</strong></td>
<td><strong>72,570</strong></td>
<td><strong>65,372</strong></td>
</tr>
<tr>
<td>Others</td>
<td>27,607</td>
<td>31,665</td>
<td>30,652</td>
<td>30,459</td>
<td>30,927</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>105,059</td>
<td>113,010</td>
<td>107,386</td>
<td>103,029</td>
<td>96,299</td>
</tr>
</tbody>
</table>


Electronics Manufacturing

Various aspects of the dfi activities of Japanese electronics firms have been quite extensively examined by Yoshihara (1976) in his book on Japanese Investment in South-East Asia, and in a study published by the Export-Import Bank of Japan (1980) on the Internationalisation of Japan's Consumer Electronics Industry.21 In general, the findings of these studies have been very consistent with each other and with those of the survey undertaken for this thesis.

a) Investment Behaviour and Objectives

The manufacturing firms in the electronics industry can be very broadly classified into three groups i) consumer electronics “set” manufacturers; ii) industrial electronics manufacturers and

Table 3.4
Electronics Firms Included in Survey - By Industry Classification

<table>
<thead>
<tr>
<th></th>
<th>Consumer Products</th>
<th>Industrial Equipment</th>
<th>Parts and Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>SONY</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matsushita</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hitachi</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Nippon Electric Company</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alps</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Murata</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Foster</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Naito Densei</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Abe Hatome</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: 1) Company Annual Reports
2) Survey of Japanese Firms

iii) parts and components manufacturers. There is however, a considerable degree of overlap among them. All "set" manufacturers produce some parts for their own use and a number of "parts" manufacturers have either made the transition to becoming set manufacturers (e.g. Sansui, Trio, Pioneer) or are in the process of doing so (e.g. TDK, Alps and Kyoto Ceramics). At the same time, there are a number of firms which are major producers of industrial equipment as well as consumer electronics and electronic components (Hitachi, Toshiba, Mitsubishi Electric).

Investment in production facilities overseas have been undertaken by firms in all three groups, but there have been some differences in the approach taken because of the varied circumstances confronting each group. Some differences were also due to management attitudes.

The consumer products "set" manufacturers led the surge of dfi that started at the beginning of the seventies. Compared to the other two product groups, consumer products had the largest share of production (41.5 per cent in 1971) but more significantly, an even larger share of exports (66.8 per cent).\textsuperscript{23} The dfi undertaken by these manufacturers were basically for purposes of defending and expanding their export markets, and can be classified into three types although some investments will fall into more than one category. Firstly, some investments were made to overcome trade barriers set up by host countries and thereby maintain continued access to established export markets. This type of investment was very prevalent during the late sixties and early seventies in the South-East Asian countries where import-substitution policies were being pursued. They have also been important in the United States in recent years, in response to the increasingly protectionist policies being adopted.\textsuperscript{24}

The second type of dfi is commonly known as "export-oriented" investments, where the products are mainly intended for export to third countries. These investments were to some extent influenced by decisions of American set manufacturers to re-locate production of some assembly operations in the low-cost - in terms of labour cost advantages and government tax incentives - Asian countries between 1966 and 1969.\textsuperscript{25} To remain competitive in the U.S. market it was necessary for Japanese set manufacturers to adopt similar

\textsuperscript{23} Kawahara (1980) EXIM (1980) Table 4, p.19.
\textsuperscript{24} Since the Orderly Marketing Agreement for export of colour television to the U.S. was made in 1976, dfi in electronics manufacturing in the U.S. has increased rapidly. Kawahara (1980) pp. 8-9.
\textsuperscript{25} Yoshihara (1976) p.144.
measures, and this has been the most important form of dfi in Asia throughout the seventies. These investments also have the additional advantage of circumventing trade quotas on Japanese exports by developed countries.

Compared to the two types of dfi discussed above, the third type of investment is much more positive. In this case, the investment is made to facilitate greater penetration of the overseas market which had previously been serviced by exports. Local production is considered essential to provide most effectively the product differentiation (in terms of quality, performance, design and after-sales service) required to meet the varied needs of the consumer and hence capture a larger share of the market. Such types of investments are expected to become more important as these firms gain more experience and confidence in dfi and as they move further ahead of the rest of the world in terms of technological developments. 26

Unlike the "set" manufacturers, the parts manufacturers have not been subjected to trade restrictions of any significance. The majority of the investments have been made at the request of set manufacturers and are designed to cater for their overseas operations. As the set manufacturers establish production overseas, some of their suppliers are requested to follow, so as to maintain an efficient and reliable supply of key components. For the parts manufacturer, it is a necessary move to retain the sales

26. In 1982, a number of joint-ventures between Japanese and European firms were concluded. These were mainly in the form of Japanese capital investment in European manufacturing enterprises and the Japanese firms providing technology. (Japan Economic Journal, 26 July, 1983, p.1.).
outlet for its products. This is particularly important for those firms that supply only one set manufacturer in Japan exclusively. However, in some cases, the "parts" manufacturers are able to generate more sales by supplying other set manufacturers (Japanese and others) that are operating in the region.

Some investments have been undertaken independently of set manufacturers, though on a much smaller scale. These firms usually possess some very specialised "high technology" product, and which feel that local production is essential to expand its sales. This type of dfi projects are most significant in the developed countries which like Japan have an advanced electronics industry and therefore have a large potential market. As in the case of set manufacturers, such investments are expected to become more significant as these firms adopt a more global outlook. 27

The "industrial electronics" sector is much less dependent on exports (18.3 per cent of production in 1978) than the other two sectors (52.5 per cent and 29.1 per cent), 28 and except for the electronic calculator, are not mass-produced. As a result, it has not been subjected to such intense cost pressures as the other two sectors, or the same level of trade friction as consumer products. This also means that the level of overseas production of industrial products has been much lower.

The principal motive for dfi in these cases, therefore has been to service the market more efficiently, in terms of meeting customers' needs and providing after sales service. Some firms are also concerned about trade friction in the longer-term, but the

28. EXIM (1980), Table 4, p.19.
Table 3.5

Electronic Firms Included in Survey - Motives for Dfi

<table>
<thead>
<tr>
<th></th>
<th>Trade Barriers/ Friction</th>
<th>Production Costs</th>
<th>Overseas Markets</th>
<th>Follow Customers</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>SONY</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matsushita</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hitachi</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEC</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Alps</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Murata</td>
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<td></td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>Foster</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naito Densei</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abe Hatome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Survey of Japanese firms.

more important reason is to increase market penetration. Export oriented investments have been significant only in the production of electronic calculators, which has become very much a consumer product. In some cases, dfi, has been undertaken at the request of host countries (especially in developing countries) that are very keen to acquire the technology used. Such investments are in effect an implicit condition for a major sales contract.

It has been shown that electronics firms have various motives in undertaking dfi, and that the nature of a firm's products, their markets and management attitudes have been critical factors. The principal ones have been to overcome trade barriers or reduce trade friction, reduce production costs, penetrate overseas markets, to follow customers which have shifted overseas so as to retain sales outlets and where dfi is an implicit condition for a sales contract. The main motives for undertaking dfi, of the firms covered in the surveyed are listed in Table 3.5. It should be
noted, that for some of these firms, more than one motive have been applicable because of their product mix as well as changing circumstances in their activities.

Finally, a notable feature of Japanese dfi in all these product sectors has been the non-involvement of the trading companies in contrast to Japanese dfi in resources development. Most of the firms interviewed stated that one of the main reasons has been the high levels of product differentiation and after-sales customer service required with electronic products and which general trading companies are not equipped to handle. As a result, they have not developed close relations with trading companies, and have generally handled marketing on their own. As a group, the electronics firms have been very successful both in terms of growth and profitability. Coupled with the relatively low capital requirements and risks of such investments, electronic firms have not felt the need for financial assistance or to diversify risk through joint ventures with trading companies.

b) Equity Participation

In undertaking dfi in electronics manufacturing, firms prefer to have complete ownership of their subsidiaries. This ensures total management control of their subsidiaries' operations, and which enables them to optimise the integration of all their operating units. Also, as the electronics industry is technology-oriented, total ownership provides greater security of proprietary knowledge as well as allows firms to maximise their return from this knowledge. ²⁹

However, in a number of cases where the investment was made to supply the local market—response to import-substitution policies in developing countries in particular—the Japanese firm had to invest in joint-venture with a local company because of host country regulations. There have also been investments undertaken as wholly-owned subsidiaries but with the expectation by host governments that local equity participation will be introduced at a later stage. Finally, some Japanese firms have formed joint ventures with major local producers, to take advantage of their distribution network and established markets.

From the survey undertaken for this study, the majority of investments has been in the form of wholly-owned subsidiaries, and this situation is expected to be generally applicable throughout the industry for the reasons discussed above. This type of dfi project was most predominant among those undertaken for the purpose of re-exporting to third countries or Japan. This is probably due to the fact that most of these investments have been in developing countries and have been encouraged by host governments at the time of investment for their contribution to employment creation and earning of foreign exchange, 30—withstanding the fact that the transfer of technology and local equity participation are also major objectives of these governments' policies.

3.4 CONCLUSION

The evidence presented above shows that the motives and policies underlying Japanese dfi in resources development and in electronics manufacturing are very different. While the latter appears to fit in with the Hymer-Kindleberger-Caves internalisation model, the most important objective of control associated with the model is absent in Japanese dfi in resources. Instead, it has been undertaken entirely on the basis of contractual arrangements in the form of joint ventures.

The trading companies have been the traditional investors, in dfi in resources development, and they have invested strictly for the purpose of securing captive sources of supply as a means to expand their trading activities. The principal activity of these companies is trading. If they find that they could secure profitable marketing rights by taking a small equity investment in a project, the rational response would be to do so. Likewise the major foreign partners are interested in securing markets for its production and appear to believe that a small equity involvement by the Japanese would lead to greater commitment to their projects. Resources dfi for the trading companies is therefore very much a contractual arrangement, whereby they receive profitable marketing rights in consideration of a small equity investment in a project. Consequently, it would not be unrealistic to suggest that if the trading companies are able to secure similar marketing rights without dfi, they would do so.
On the other hand, the Japanese user companies may perceive greater benefits in dfi for the purpose of vertically integrating its operations. However in all cases, each firm has only undertaken a relatively minor share in a project. One of the main reasons is that by the late sixties when these companies began to turn their attention to developing raw material sources abroad at their own risk and initiative, a number of giant multinationals (US and European based companies) had already established a firm grip on these industries and created formidable barriers to entry.\(^\text{31}\)

Another contributory factor which has forestalled Japanese control of resource projects is the rise in nationalism of resource-owning host countries.\(^\text{32}\)

Without management control, the principal benefit of dfi by the user companies appears to be security of supply, which these companies had previously obtained through long-term contracts and providing development financing which was repaid in the form of the ores produced - known as the PSC formula.\(^\text{33}\) The move into dfi in the seventies in particular, was probably due to the greater bargaining power of the resource producers at that time. In a climate of high Japanese demand and consumption of resources, and rising commodity prices, they were able to enforce their preference for equity participation by the user companies as a condition for project development.

Another competing hypothesis to explain the rapid increase in resources dfi under such terms is that the Japanese had adopted a strategy of deliberately promoting excessive development and supply

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32. Sekiguchi(1979) p.19  
33. Sekiguchi(1979) p.28
so that they can reap the benefits of supply security as well as low prices. Undoubtedly, developments in recent years appear to give support to this hypothesis, with significant shortfalls in demand compared to forecasts used as a basis for project development, and depressed commodity prices. On the other hand, these outcomes could have been purely fortuitous, resulting from poor forecasting and judgement rather than good management on the part of the Japanese investors.

Notwithstanding which of the above has been the more dominant strategy underlying resource dfi by user companies, like the trading companies, their dfi activities are principally contractual arrangements, without the benefits of control and internalisation associated with the Hymer-Kindleberger-Caves model. Similarly, in consideration of a small equity investment, the user company receives purchasing (instead of marketing) rights to the project's output.

It must be concluded that Japanese resource dfi does not fit into the conventional definition of direct foreign investment as applied in the various theories discussed, since the critical element of management control which distinguishes direct investment from other investments is missing. Therefore these theories are not very useful for explaining Japanese resource dfi.

The relatively small equity interest of each participating Japanese firm in a project, and therefore correspondingly small capital requirements and absence of a management role for the Japanese firms in these projects, would also mean that the existence of a macro-technostructure is not required to facilitate such investments. Moreover the trading companies, as well as the user companies are technostructures in their own rights and it is
difficult to suggest that their decisions to invest were significantly influenced by the operation of a macro-technostructure. There has been no indication that their investment decisions were initiated by external parties such as the Japanese government.

The practice of joint investment by user companies and trading companies since the mid-seventies, with the latter providing the organisational expertise, thereby incorporating a collective intelligence which is beyond that of any one of the participating firms, does give the impression of the operation of a macro-technostructure. The question however is whether the apparent macro-technostructure was the consequence rather than an important element of an investment decision.

It can be argued that although all the participating firms being major companies, are each a technostructure that is fully capable of undertaking dfi activities in its own right, the peculiar characteristic of the organisation of Japanese firms into business groups and the close relationship among its group members, have made joint investment a desirable arrangement. The trading companies with their far greater experience in dfi would be the natural leader for the group. Further the common objective of reducing investment risks through the considerable political pressure that inter-keiretsu group investment can exert on the Japanese government, has likewise resulted in similar investment behaviour.

Perhaps only in the case of "national projects", that the operation of a macro-technostructure can be said to exist. This is where the role of the Japanese government in negotiating with the host country government, and its direct equity participation and
concessionary financing are crucial to reducing the political risks and financing costs of a project to an acceptable level to induce Japanese firms to invest. However, even though "national projects" are generally very large, they still only account for a minor share of Japanese resources dfi - most projects are undertaken by Japanese firms, without any government involvement other than through the provision of concessionary loans.

In dfi in electronics manufacturing, even the apparent existence of a macro-technostructure is not present. Dfi has been undertaken by individual firms, mainly as wholly-owned subsidiaries, in response to the particular needs of the investing firm. There has been no involvement of the trading companies - or the Japanese government in their dfi activities. Only in the case of the small component manufacturer, which invested overseas in tandem with its principal customer, can the existence of a macro-technostructure be suggested.

Instead, the behaviour of Japanese firms investing in electronics manufacturing overseas, lends support to the proposition by Giddy and Young (1982) that the Hymer-Kindleberger-Caves monopolistic theory of dfi is quite appropriate to explain Japanese dfi activities. All the firms, large and small, undertaking dfi, owned some firm-specific advantage - principally technological know-how - which gives them a competitive edge over local firms, as well as their competitors. Notwithstanding, the relative disadvantages that the Japanese investing firm will have in comparison to local firms - resulting in higher costs of production - its technological edge enables the firm to be competitive and makes dfi worthwhile.
To explain dfi undertaken by firms that are relatively “small and immature”, Giddy and Young\textsuperscript{34} contended that firms pursuing imitative or dependent strategies do not have to be large or research-intensive to undertake dfi successfully. This is because their domestic advantages are transferable abroad within the firm at little additional cost. Also as they are largely inseparable from the firm, exploitation of these advantages tends to be internalised through dfi rather than sold in the open market.

Companies adopting imitative strategies introduce products well after their first appearance on the market. Such companies may have particular advantages in production engineering, enabling it to manufacture at low cost; or it may possess skills in adapting products to specific market requirements; or strong marketing skills. These firms are characterised by relatively low research intensity, may be large or small, but for all, these firms, the advantages they possess may be transferable across national frontiers and in principle permit dfi.

The components manufacturers which are closely linked with the finished goods manufacturer would fit into Giddy and Young’s classification of firms operating a dependent strategy. Dependent firms will often be small, but may be highly profitable, capitalising on the supply of perhaps an important component to a dominant firm. The optimum scale of production may be too low for the dominant firm to consider it being worthwhile to be involved directly. The expertise relating to the manufacture and use of these components; the problem-solving skills in the application of these components within particular industries; and flexibility of

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\textsuperscript{34} Giddy & Young(1982) pp.66-70
production are valuable firm-specific advantages. The dependent firms may be encouraged to establish foreign operations by the dominant firm, or may see it in their interests to do so to prevent the latter developing alternative supply sources. The dominant firm, for its part, may find it more convenient and profitable to rely on the same suppliers to avoid the risks and costs associated with searching for a local supplier.

In summary, it has been shown that Japanese dfi in resources development does not fit very well into conventional internalisation theory as the Japanese investors do not have management control. Instead the investments have principally been undertaken as contractual arrangements, whereby the Japanese investors could secure marketing or purchasing rights to a project's output in consideration of a small equity investment. Japanese dfi in electronics manufacturing, on the other hand, displays features such as firm-specific advantages and wholly-owned subsidiaries that are predicted by internalisation theory. The evidence also does not provide much support for Ozawa's proposition that Japanese dfi was significantly facilitated by the operation of a macro-technostructure. Even in resources dfi, the provision of financial assistance by the Japanese government has not been identified as a key factor in a firm's decision to undertake dfi. This will be further developed in the next chapter when the sources of funds used in Japanese dfi activities are examined.
CHAPTER 4
Sources of Finance

The objective in this chapter is to determine the significance of the financial assistance provided by the government for Japanese dfi activities. As already mentioned in Chapter 1, Ozawa contended that perhaps the most important supportive feature in Japan's overseas industrial expansion is the role of the Japanese government in encouraging, assisting and occasionally even participating, albeit indirectly in private overseas ventures.¹

He asserted that the supportive role of the Japanese government in providing financial assistance to Japanese firms has resulted in a heavy reliance by these firms on loans from government sources and the closely-controlled banking system for their overseas investment capital. As at the end of the fiscal year 1975, these two sources each accounted for about one-third of funds employed in direct foreign investment - the remaining third was financed by the firms' internally generated funds.²

Since 1975 however there has been less reliance on these two sources with greater employment of internally generated funds and foreign sources of funds. Table 4.1 shows that over the six year period from 1975 to 1981, these two sources together accounted for more than half (53.6 per cent) of total funds employed in dfi. In particular, internally generated funds which includes undistributed earnings of overseas subsidiaries, has become most important, increasing from 33 per cent to 47 percent. Funds from the Japanese

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¹ Ozawa (1979) p.33.
² Ozawa (1979) p.37.
Table 4.1

Sources of funds employed for Japanese direct foreign investment: Industry Average for 6-year period from 1975 to 1981. (Per cent)

<table>
<thead>
<tr>
<th></th>
<th>Agriculture, Forestry &amp; Mining</th>
<th>Manufacturing</th>
<th>Commerce</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal funds</td>
<td>25.8</td>
<td>39.8</td>
<td>51.4</td>
<td>42.8</td>
<td>46.1</td>
</tr>
<tr>
<td>Japanese Government Institutions</td>
<td>42.4</td>
<td>42.3</td>
<td>19.1</td>
<td>13.9</td>
<td>13.0</td>
</tr>
<tr>
<td>Japanese Private financial Institutions</td>
<td>30.5</td>
<td>14.2</td>
<td>21.2</td>
<td>39.0</td>
<td>39.9</td>
</tr>
<tr>
<td>Other sources</td>
<td>1.3</td>
<td>3.7</td>
<td>8.3</td>
<td>4.3</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


banking system (26.8 per cent) and from government institutions (19.8 per cent) have however remained significant, accounting for the other half of total funds used.

It can also be seen from Table 4.1 that the relative importance of these sources varies quite markedly among the industrial sectors in which dfi was undertaken. Government institutions were the most important source of funds for dfi in the primary sectors - mining and agriculture, forestry and fishery - providing about 42 per cent of total funds. In the manufacturing and commerce sectors, they were much less important and accounted for less than 20 per cent. Instead, internally generated funds were much more important - 51.4 per cent in manufacturing and 42.8 per cent in commerce. Among the various sectors, loans from the Japanese banking system was most important for the tertiary industries (about 40 per cent) which are principally short-term
Credits to finance the relatively large working capital requirements of such investments. It is also interesting to note that the manufacturing industries had been the most reliant among the industry groups on other (mainly foreign) sources of funds.

The decline in relative importance of government sources of funds, from an average of 34.6 per cent at the end of 1975 to 19.6 per cent for 1975 to 1981 of total funds, raises questions about its significance in financing Japanese dfi activities. This coupled with the concentration of employment of such funds in the resources sectors where dfi has been undertaken principally by major Japanese companies also suggests that Ozawa's hypothesis about the role of government financing may not be correct. One would expect that if the role of government financing was to supplement the insufficient financial strength of Japanese companies investing abroad, there would be much greater use of such funds in the manufacturing sector where a large proportion of the smaller Japanese firms with less capital resources to invest abroad are to be found. Instead the decline in use of government funds appears to reflect the almost parallel decline in relative share of dfi in resources - from 34.9 per cent of total dfi in 1965 to 21.4 per cent in 1982 (Table II.7).

By examining the sources of finance used by Japanese firms undertaking dfi in resources development and electronics manufacturing, and the principal factors influencing their choice it is expected that some insight into the use of government financing can be made. From the specific experiences of these two sectors, some general conclusions about the significance and role of government financing in Japanese dfi can then be drawn.

In this chapter, the financing of dfi in resources development and electronics manufacturing will be examined in turn. As mentioned at the beginning of this thesis, there is very little published information available, and the following analysis will therefore be principally based on information collected from the thesis survey. The focus of the analysis will be on the employment of government financing and the factors influencing its use. In the process, use of alternative sources of finance, developments in financing strategies and expected future trends will also be discussed.

4.1 RESOURCES DEVELOPMENT

All the firms interviewed during the survey undertaken for this study stated that they had employed loans from the Export-Import Bank of Japan (EXIM) to finance every dfi venture in resources development. As these EXIM loans are available only as part of a "co-financing" package together with Japanese commercial banks, financing from the Japanese banking system has also been an important feature in the funding of resources projects. The firms also stated that until recent years, they had normally raised the total capital requirements for investment through these co-financing arrangements, as illustrated in Figure 4.1.

In the last few years, for various reasons which will be discussed in greater detail shortly, Japanese firms have used other sources of funds in addition to EXIM-Japanese bank loans to finance their fund requirements. These alternatives which are principally local bank loans and the use of project financing alters the funding configuration to that as shown in Fig. 4.2. Examples of
Figure 4.1
EXIM Co-financing Loans

Source of Funds

EXIM

Japanese Firm

Source of Funds

EXIM

Japanese Commercial Banks

Dfi Project

Equity

Local Banks

Project Financing

Figure 4.2
Resources Dfi Financing

Source of Funds

EXIM

Japanese Commercial Banks

Dfi Project

Equity

Japanese Firm

Loan
such projects are the Quintette and Gregg River coal projects in Canada that were undertaken in 1981 and 1982 respectively.

The general rule specified for these co-financing packages is for EXIM to provide 70 per cent, with the commercial banks providing the balance of 30 per cent. However, although all the interviewees were unwilling to provide exact figures for specific projects, the survey has found that the level of EXIM funds in some projects has been as high as 80 per cent. In most cases, it was within the 50 to 70 per cent range.

According to EXIM Bank officials, the level of EXIM funds provided vary with a number of factors which include the priority ranking of the resource, the proportion of production to be imported into Japan, and the political sensitivity and riskiness of the project. Although the priority ranking of different resources change over time, EXIM policy has been to provide a larger proportion of funds for those projects with higher priorities, on the basis of a greater national need for and therefore benefits accruing from these projects. The same argument applies to providing higher levels of EXIM funds for larger shares of production that will be imported into Japan. The provision of EXIM funds is also a direct function of the political sensitivity and riskiness of the project. The basis is that the greater the political and other risks, the greater is the need for the government to reduce these risks to a level that Japanese firms are willing to accept and invest in the project.

5. Information provided by several interviewees from trading companies and confirmed by EXIM officials.
For those projects that have been designated as "national projects", government financial support has also been provided through the Overseas Economic Co-operation Fund (OECF) in the form of equity capital and loans, as well as through loans from the Japan International Co-operation Agency (JICA). Unlike EXIM, these two organisations have been established specially to channel Japanese foreign aid funds to promote economic development in developing countries. Therefore, the funds provided by these organisations to resource projects, effectively have two purposes - to subsidise the cost of funds for Japanese dfi and to implement Japanese foreign aid policies. Compared to EXIM funds, the provision of these funds must therefore be much more affected by political considerations. Two such projects are the Asahan project mentioned earlier and the Amazon Aluminium project in Brazil, both of which are quite similar in scope and objectives.

Asahan Aluminium Project

To demonstrate how government funds have been channelled to such projects and their financial implications, the financing of the Asahan project will be examined.

The financing plan for the Asahan project is shown in Figure 4.3 and a summary of the sources of funds in Table 4.2. It can be seen from the table that almost 87 per cent of the development funds required were from Japanese sources, although total Japanese equity is only 75 per cent (Figure 4.3). As with other Japanese dfi projects, the Japanese government provided the bulk of these funds - just over three-quarters - and the commercial banks provided the balance. EXIM - commercial banks co-financing was the principal vehicle for Japanese funds, accounting for 68.7 per cent,
Table 4.2
Asahan Aluminium Project—Sources of Funds

<table>
<thead>
<tr>
<th>Source</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXIM</td>
<td>39.6</td>
</tr>
<tr>
<td>OECF</td>
<td>23.3</td>
</tr>
<tr>
<td>JICA</td>
<td>2.6</td>
</tr>
<tr>
<td>TOTAL JAPANESE GOVERNMENT FUNDS</td>
<td>65.5</td>
</tr>
<tr>
<td>Japanese commercial Banks</td>
<td>21.2</td>
</tr>
<tr>
<td>TOTAL JAPANESE SOURCES</td>
<td>86.7</td>
</tr>
<tr>
<td>Indonesian Government</td>
<td>13.3</td>
</tr>
<tr>
<td>TOTAL PROJECT COST</td>
<td>100.0</td>
</tr>
</tbody>
</table>


With the OECF providing 26.9 per cent and the balance of 4.4 per cent by JICA—commercial banks co-financing.

As shown in Figure 4.3, EXIM co-financing funds were used in three ways. The first and smallest of such loans (8.3 per cent of total project cost) were made directly to the Japanese firms to finance their share of equity capital. Next, and the largest loans (37.0 per cent of project cost) were made to the Japanese joint-venture company, Japan Asahan Aluminium Corporation (JAA) (in which both the Japanese government through the OECF and the Japanese firms as a group, each have 50 per cent equity interest), for the purpose of financing its share of loan funds. Finally, EXIM co-financing loans were provided to JAA for on-lending to the Indonesian government, to finance part of its share of loan funds (14.3 per cent). In all three cases, the Japanese investors—OECF and Japanese firms are primarily responsible to EXIM and the commercial banks for these loans.
Figure 4.3
The Asahan Aluminium Project - Financing Plan

On the other hand, OECF funds have been provided as a direct loan to the Indonesian government (15.0 per cent of project cost) and for which it will be held directly responsible to the OECF. The remaining portion of OECF funds (8.3 per cent) was provided as OECF's capital contribution to the project. The relatively small proportion of funds provided by JICA (2.6 per cent of project cost) was also co-financed and lent to JAA in the same manner as EXIM funds.

It is apparent that through the provision of funds by Japanese government institutions in these various ways, considerable financial benefits accrue to the Japanese firms investing in the project and to the Indonesian government, in addition to the interest cost savings on these concessional loans. As the OECF is principally a government instrument for channelling funds, it does not have any expertise nor vested interest in the management of the project. This therefore means that the Japanese firms, with only 37.5 per cent equity has control of the whole project. More significantly, it only has to contribute 28.65 per cent (8.3 per cent as capital and 20.35 per cent as loan investment) of the total fund requirements of the project.

The apparent financing benefits for the Indonesian government are perhaps less significant. Although it has to raise only 13.3 per cent of project cost from other sources in return for a 25 per cent equity interest in the project, the Indonesian government has to be responsible for a larger share of loan funds - 47.5 per cent instead of 25 per cent of total loans. As a result, the share of project cost that the Indonesian government has to service is 42.5 per cent.
EXIM Co-financing - Main Considerations

The discussion so far has shown that Japanese dfi in resources development has been financed in large part by government financial institutions and to a smaller extent, the commercial banks. Also, most of these funds have been provided in the form of co-financing by EXIM and the commercial banks. However, in recent years Japanese firms have diversified their funding to the use of local bank loans and project financing. The reasons underlying the extensive use of these co-financing loans in Japanese resources dfi, and the changes in their role observed in recent years will be examined in the following.

All thirteen firms interviewed during the survey stated that the most important reason for the use of co-financing loans has been lower cost. As with the level of funds approved, the interest rate charged on EXIM funds varies with the projects, but in general is significantly lower than commercial loans rates. For example the survey found that in 1982 the rates on such EXIM loans was mainly in the 6.5 to 7.0 per cent range compared to the "prime" long-term rate of city banks of 8.4 per cent. Other than the lower nominal rate, the rate of interest is fixed at the time of approval of the loan unlike commercial loans which have interest rates set at the time when the funds are released, or which may have floating rates. In periods of rising interest rates, the cost savings could be considerable. Also, these loans sometimes include an additional cost benefit in terms of a "grace period" - during which loan repayments can be deferred.

In addition to the concessionary rates on EXIM funds, the interest rates on loans from the commercial banks are also very favourable to the borrowing firms. This is because of the
traditional low interest rate policy pursued by the Japanese
government, through the imposition of ceilings on deposit rates
and maintaining artificially low discount rates for government
securities. As shown in Table 4.3 which sets out the average
interest rates of some of the major industrialised countries
between 1970 to 1982, interest rates in Japan have been among the
lowest in comparison with these countries. The impact of the
Japanese government's low interest policy was most significant for
the period 1978 to 1982, when the differential in prime rate
between Japan and the United States ranged from a low of 4 per cent
in 1982 to a peak of 12 per cent in 1980. The Japanese prime rate
was also considerably lower than the three-month Euro-dollar rate
which can be regarded as a measure of the equilibrium market rate.

According to two interviewees, another benefit is the
reduction in political risks. The implicit government support for
a project associated with the co-financing package results in ready
access to government dfi insurance against political risks, which
may not be so readily available otherwise. More importantly
perhaps, the government may intercede on behalf of the Japanese
partners should serious problems arise, especially if a foreign
government is involved.

The compelling reason for Japanese firms to raise the full
amount required for an investment through these co-financing
arrangements has been lower interest costs. But more recently they
have been re-assessing the costs and benefits of these packages,
resulting in some diversion to other sources of funds. The main
disadvantages of this form of financing as stated by several

interviewees are the adverse effects on a firm's balance sheet, and the high foreign exchange exposure.

Under these arrangements, the loans are extended to the Japanese firms directly which are then invested as equity or loans in the dfi project as shown in Figure 4.1. In most cases, both apply. These loans adversely affect the balance sheet of the parent company through their impact on the debt-equity ratio. In recent years, Japanese firms have become increasingly concerned about their leverage and its impact on their balance sheets, especially for purposes of raising funds from foreign capital markets. Exacerbating this heightened concern for balance sheet

### Table 4.3

Average Interest Rates of Major Countries: 1970 - 1982

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>Britain</th>
<th>W. Germany</th>
<th>France</th>
<th>Japan</th>
<th>Euro-dollar rate (three months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Official discount rate</td>
<td>Prime discount rate</td>
<td>Official discount rate</td>
<td>Official discount rate</td>
<td>Official Prime discount rate</td>
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<tr>
<td>1970</td>
<td>5.50</td>
<td>6.75</td>
<td>7.00</td>
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<td>6.00</td>
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<td>1971</td>
<td>4.50</td>
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<td>5.00</td>
<td>4.00</td>
<td>6.50</td>
<td>4.75</td>
</tr>
<tr>
<td>1972</td>
<td>7.50</td>
<td>6.00</td>
<td>9.00</td>
<td>4.50</td>
<td>7.50</td>
<td>4.25</td>
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<td>1973</td>
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<td>10.00</td>
<td>13.00</td>
<td>7.00</td>
<td>11.00</td>
<td>9.00</td>
</tr>
<tr>
<td>1974</td>
<td>6.00</td>
<td>11.50</td>
<td>9.00</td>
<td>8.00</td>
<td>10.50</td>
<td>6.50</td>
</tr>
<tr>
<td>1975</td>
<td>6.00</td>
<td>7.25</td>
<td>11.75</td>
<td>3.50</td>
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<td>7.75</td>
<td>7.00</td>
<td>3.00</td>
<td>9.50</td>
<td>4.25</td>
</tr>
<tr>
<td>1978</td>
<td>9.50</td>
<td>11.75</td>
<td>12.50</td>
<td>3.00</td>
<td>9.50</td>
<td>3.50</td>
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<tr>
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<td>15.25</td>
<td>17.00</td>
<td>3.00</td>
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<tr>
<td>1980</td>
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<td>21.50</td>
<td>14.00</td>
<td>7.50</td>
<td>9.50</td>
<td>7.25</td>
</tr>
<tr>
<td>1981</td>
<td>12.00</td>
<td>15.75</td>
<td>7.50</td>
<td>7.50</td>
<td>9.50</td>
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<tr>
<td>1982</td>
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<td>11.50</td>
<td>-</td>
<td>5.00</td>
<td>9.50</td>
<td>5.50</td>
</tr>
</tbody>
</table>

figures is the dramatic increase in the size of DFI projects and
the resulting fund requirements which has been mentioned
previously. If these investments were to be funded solely by the
traditional EXIM co-financing package, the adverse balance sheet
effects, and probably the associated financial risks become quite
unacceptable to management. As a result, Japanese firms have been
turning to alternative "off balance sheet" financing, to reduce
these adverse effects and risks at the expense of higher financing
costs.

In addition to balance sheet considerations, foreign exchange
exposure associated with EXIM co-financing has also become a major
concern. As discussed in Chapter 2, foreign exchange risk is a
major consideration in the selection of a financing plan for an
investment. Because of the relatively large amounts involved, the
level of foreign exchange exposure resulting from using EXIM co-
financing loans to finance total requirements is considered to be
excessive. The co-financing loans are almost always denominated in
yen. Only in a limited number of cases when Japan had an embaras-
sing surplus of foreign reserves during the early seventies that
the loans were denominated in US currency. The bulk of the
resources trade is still denominated in US currency and with an
expected strengthening of the yen against the US dollar in the
long-run, foreign exchange losses could be very substantial. In
particular, some firms that have had some bad experiences are
especially concerned about their exposure on such loans.

To overcome the disadvantages associated with the co-financing
arrangements, some Japanese firms have adopted various alternative
approaches. One of them has been for all the Japanese firms
involved in a dfi project to form a joint-venture company in Japan, which will invest in the dfi project on behalf of its shareholders. More importantly however, the joint-venture company will be able to raise the "co-financing loans" and thereby remove the adverse effects on the parent companies' balance sheet. But, this measure fails to reduce the financial risks of these loans as the parent companies are normally required to provide guarantees for them, or address the problem of foreign exposure.

The other more effective approach has been to diversify to other forms of financing-local bank loans and in particular, project financing. Both these methods have the advantage of being "off-balance sheet" and through judicious planning, would also reduce the foreign exchange risks of an investment. Also, as discussed in Chapter 2, these financing alternatives would also minimise the costs of expropriation. In the relatively recent Gregg River coal project, capital requirements of more than $100m were raised in approximately the following proportions:

EXIM Co-financing - 40 per cent
Local bank loans - 30 per cent
Project financing - 30 per cent.

It should be noted that the local bank loans and project financing were negotiated for the project as a whole and covers the foreign partner's capital requirements too.

Such use of local bank loans and project financing together with co-financing coupled with the formation of a joint-venture company in Japan to borrow on behalf of its parent companies, appear to be quite ideal for the Japanese firms. This strategy enables them to eliminate or reduce the problems associated with co-financing but at the same time maintain and nurture their
important links with the Japanese banks and the Japanese government. It is expected that future major Japanese dfi, especially in developed countries would follow this trend.

4.2 ELECTRONICS MANUFACTURING

The financing of dfi in electronics manufacturing has been quite different from that of resources development. The normal approach by electronics firms is to plan for their dfi projects as part of the overall financial budget for the firm and to draw upon the common pool for their dfi projects as and when required. This is in contrast to resources projects, where the financial requirements for each project are planned and raised separately. One of the main reasons for this is that, for most electronics firms, the capital requirements for dfi are relatively small compared to the overall capital expenditure of the firm. The other important cause is that the parent firm has complete ownership and management control of its dfi projects and this allows the firm to integrate and centralise the financial activities of its subsidiaries.

There has been very little use of Japanese government funds in dfi projects although the EXIM bank also has co-financing arrangements for the electronics industry. An EXIM official estimated that less than 10 per cent of Japanese dfi in electronics manufacturing was financed by EXIM loans. The general opinion of most electronic firms is that the cost benefits of these loans are not sufficient to warrant the trouble involved in dealing with government bodies, and as a result they have a policy of avoiding the use of EXIM funds as far as possible. This situation has resulted from a number of factors.
Compared with the terms for dfi in resources development, the terms of these co-financing loans - especially for EXIM funds - for electronics dfi are much less favourable. EXIM interest rates applicable for dfi in resource projects range from 6.0 per cent to 6.5 per cent for energy resources and 7.5 to 8.2 per cent for other natural resources, but for electronics manufacturing the range is between 8.25 per cent and 8.80 per cent.\(^8\)

The reduced interest differential between co-financing packages and commercial loans, coupled with the lower capital amounts involved in electronics dfi have led to much less significant cost benefits. At the same time, the electronics industry has been very profitable,\(^9\) especially since the mid-seventies, and have generated a large pool of funds for investment. With their impressive growth and profit records, the major companies have been able to tap both Japanese and foreign capital markets profitably as well as become the most sought-after clients of the Japanese banks. In general, the electronics firms are in the very comfortable situation of having a vast range of relatively attractive financing alternatives - and have no necessity to put up with the problems involved in using government loans.

Apparently moving against the general trend presented above, the survey found several incidences where EXIM funds were used. Firstly, two small component manufacturers had used EXIM co-financing for one of their investments abroad. In both cases, the investment was their first major dfi project, and was undertaken in

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9. Among the top 30 Japanese firms in terms of profitability in FY 1982, ten were electronics firms - Japan Economic Journal, 9 August 1983.
the early seventies at the request of their major clients which had already moved production overseas. However, the main reason for using the co-financing facility was because it was considered to be a relatively cheap source of funds. This is primarily due to the fact that the Japanese banking system discriminates against smaller firms and these firms would be required to pay much higher interest for their loans from commercial banks. As a result the cost benefits of the co-financing facility would be greater for them than for other firms that can borrow at lower commercial rates, and hence make these loans desirable. Both firms also stated that even without these EXIM loans, they would have proceeded with the investments because they could obtain loans from their banks and the underlying reasons for dfi were compelling.

In the other case where EXIM funds were used, a major electronics firm had employed those funds for an investment to supply the needs of a foreign government. It was the first time that the firm was doing business with this foreign government, and the firm felt that the involvement of EXIM, and indirectly the Japanese government was desirable, to facilitate government intervention should it be required to protect the interests of the firm. Other than that dfi project, the firm has not used EXIM funds in any other case.

In conclusion, the electronics firms have employed very different sources of funds and adopted a different approach to financing their dfi activities compared to firms investing in resources projects. In particular, the "EXIM-city banks co-financing" facility which dominated the funding of resources

11. That is, until mid-1982 when the survey was undertaken.
projects has been very insignificant for electronics manufacturing investments, mainly because of the higher interest costs. Instead, the main sources of funds have been from the parent companies' common pool of funds, which comprise principally internally generated funds (retained profits), commercial bank loans, and local bank loans. In a number of major companies, funds for the overall needs of the company have also been raised by stock and bond issues, in both the Japanese and international capital markets.

This situation is expected to continue for sometime as the electronics firms are expected to maintain their profitability and growth records. In addition, dfi by electronics firms throughout the eighties have been and are expected to be concentrated in the developed countries, especially the United States and Europe and to be undertaken by the larger and more successful firms. With the relatively well-developed capital markets and low political risks of these countries, and the sound financial position of the investing firms, it is unlikely that there will be too much cause for the use of Japanese government funds. However, if there should be significant increases in the capital costs and associated risks of dfi projects, and in the cost benefits of using EXIM co-financing packages (through reductions in the interest rate of EXIM loans) electronics firms may see advantages in using these facilities. The co-financing package could also perhaps find a place in instances where heavy investment for production of industrial equipment or inter-government relations are involved, particularly in developing countries.
4.3 SIGNIFICANCE AND ROLE OF GOVERNMENT FINANCING

To finance their resources dfi, the Japanese firms have, without exception relied heavily on government financing and loans from Japanese commercial banks – in the form of the "co-financing" arrangement between EXIM and the commercial banks. Government financial assistance has also been provided through loans and equity contribution from OECF and JICA for dfi in developing countries. In contrast government financing has been relatively insignificant in dfi in electronics manufacturing. Instead, the electronics firms have principally funded their dfi activities from other sources.

It has also been found that notwithstanding the differences in investment objectives and policies of firms undertaking dfi in resources development and electronics manufacturing, the key factor underlying the difference in use of government financing is the more significant interest subsidy provided by the government for resources dfi. As shown in Figure 2.4 on page 27, the subsidy provided through government financing is a function of the difference between the concessionary rate \( i_s \) and market interest rate \( i_m \). In the case of resources dfi, the differential between these rates is greater than for dfi in electronics manufacturing. The resulting cost savings which is equivalent to the subsidy \( P \) is likewise much larger for resources dfi. These cost savings have more than off-set the disadvantages associated with government financing – such as administrative problems, financial risks and foreign exchange exposure, and therefore government financing has been an important source of funds for resources dfi. This has not been the case for dfi in electronics manufacturing on the other hand. It therefore means that the main reason for the significance
of government financing in dfi activities has been the cost subsidy provided, rather than its role as a supplementary source of funds for Japanese firms with insufficient financial strength to invest overseas, as suggested by Ozawa.

Government financing has been viewed as being merely another source of funds that is available to the Japanese investing firms, and against which other alternatives are compared in their choice of a financing plan. For dfi in resources development, the terms of these financial packages - EXIM co-financing loans - have been superior to other alternatives and so have been a very significant source of funds in these projects. In recent years though, with the dramatic increase in the size of dfi projects, EXIM co-financing beyond a certain limit was not favoured because of its adverse effects on balance sheet figures and the associated foreign exchange and financial risks exposure. On the other hand, in dfi in electronics manufacturing, other alternative sources of financing have consistently been preferred to EXIM co-financing. Only in isolated cases, was EXIM co-financing considered to offer more advantages than other sources of funds.

Another conclusion that can be drawn from the above findings is that the rapid growth of dfi in electronics manufacturing has not been induced by financing provided by the Japanese government in association with the Japanese banks, but other factors have apparently been more critical.

In resources dfi on the other hand, there is still the issue of whether the heavily subsidised EXIM loans have contributed to its rapid growth, to be considered. The larger subsidies that are provided for resources dfi by the Japanese government also raises questions of why resources dfi was so favoured and whether the
dominance of the major trading companies in resources DFI has been an important contributory factor. All these issues will be addressed in subsequent chapters when the Japanese government's policy on concessionary financing for resources DFI and its impact on the growth of DFI and national welfare are examined.
CHAPTER 5
Role of the Japanese Banks

This chapter examines the inter-relationships among the Japanese government, Japanese banking system and the firms undertaking dfi, and how these relationships affect the financing of Japanese dfi activities. Ozawa contended that the Japanese banking system has played a key role in promoting the rapid growth of Japanese dfi, as

the individual firm with insufficient financial strength to invest overseas is... provided with funds by the Japanese government and its closely controlled financial sector.'

It has been established from the survey that the Japanese banks have been an important group of participants in financing Japanese dfi. They have featured prominently in the co-financing arrangements with EXIM which have been the principal source of funds for dfi in resources development, and in recent years have also been active in project financing for a number of projects. While the approach to financing dfi in electronics manufacturing has been quite different, - largely drawing upon the company's common pool of funds - the Japanese banks have been important contributors to this pool.

However it will be shown that the active role of the Japanese banks in financing Japanese dfi activities was primarily due to their traditional role in financing Japanese business investment rather than the result of a supportive function designed "to defray part of the private costs and realise the social benefits of overseas production."

As mentioned in Chapter 1, deliberate government policy in shaping Japan's financial system has resulted in a banking system, which has as its principal role, the financing of the corporate sector. The close relationships that Japanese banks have developed with their major customers as well as the Japanese government under these circumstances, have been therefore reflected in the financing arrangements for Japanese dfi.

In particular, the influential role that the Japanese banks have in corporate financing is reflected in the EXIM-city banks co-financing arrangements. Not only do the Japanese banks provide loans in conjunction with EXIM, but they also have some form of an advisory role to the EXIM bank as well as closely co-ordinating procedures with EXIM for project appraisal and loan approval. Among the banks, one in particular, the Industrial Bank of Japan appears to enjoy a privileged position in the co-financing arrangements, whereas non-Japanese banks are almost completely excluded.

The impact of the internationalisation of Japanese banks since the mid-seventies on dfi financing is also considered. The reduced reliance on EXIM-city banks co-financing for resources dfi and the corresponding emergence of the use of project financing have coincided with the growing presence of Japanese banks in international capital markets. It is very plausible that the change in financing preferences of Japanese firms was partly due to the greater financial sophistication of the Japanese banks and their increased capacity to tap international sources of funds.

In the first section of this chapter the role of the Japanese banking system in financing the business activities of Japanese firms is discussed. This is followed by a detailed examination of
their role in the EXIM co-financing arrangements for dfi, and the apparently privileged position of the Industrial Bank of Japan. In the final section, the effect that the increasingly international outlook of the Japanese banks could have had on the financing of Japanese dfi is considered.

5.1 FINANCING THE CORPORATE SECTOR

The dominance of the Japanese banking system in Japanese business activities is primarily due to their historically important role in channelling finance for industrial development. In its drive for economic modernisation during the late 19th century, the Japanese government established the Industrial Bank of Japan (IBJ) for the specific purpose of financing new industries. In the same period, the Long Term Credit Bank and various semi-governmental institutions such as the Agricultural Co-operative Banks, which like the IBJ specialised in providing long-term funds, also appeared. These banks together with the commercial banks that had been developed by the private sector, and some of which were the centre of the industrial zaibatsu groups, were the primary sources of capital funds for Japanese industry.

Again, after the destruction of the Japanese industrial base during World War II, the banking system was used by the Japanese government to stimulate and direct capital investment. The importance of bank financing during this period of rapid growth in private capital investment was highlighted by Patrick (1972) in his study of the role of financial intermediation during the course of

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Japan's postwar economic growth. He found that between 1952 and 1969, fixed investment by the private sector increased at an average annual rate of about 15 per cent, with the corporate sector accounting for the major share. As shown in Table 5.1 almost 80 per cent of corporate fixed investment was financed by external sources, of which about two-thirds were loans from the Japanese banking system. In other words the Japanese banks financed more than 50 per cent of the total fixed investment by the corporate sector during the '50s and '60s.

**Government Controls**

To ensure that the banking system performs its designated role of financing capital investment effectively, the Japanese authorities uses direct guidance by the Bank of Japan (BOJ) - the central bank - to control the volume and direction of bank lending towards or away from specific industrial sectors. The use of such administrative controls, known as madoguchishido, meaning window guidance, is a very distinctive feature of the Japanese financial system and it involves direct, usually daily contact between the central bank and the commercial banks. BOJ scrutiny will include banks' overall lending, sectoral credit, individual rate setting by transaction in many cases, the make-up of funding liabilities and foreign currency positions.

Such detailed guidance of the bank's lending activities has also been the "single most significant instrument of Japanese monetary policy". This is because its precision permits restrictive credit policies to be applied far more rigorously than

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### Table 5.1
Gross External Sources Identified as Financing Industrial Fixed Investment (specific sources as percentage of total)

<table>
<thead>
<tr>
<th>Calendar</th>
<th>Corporate Fixed Investment (billion yen)</th>
<th>Total External Sources (billion yen)</th>
<th>Stock Issue (%)</th>
<th>Bond Issue (%)</th>
<th>Private Finance Institution Loans (%)</th>
<th>Government Finance Institution Credit (%)</th>
<th>Foreign Loans (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>654.4</td>
<td>449.5</td>
<td>7.2</td>
<td>0.8</td>
<td>63.0</td>
<td>29.0</td>
<td>(2)</td>
</tr>
<tr>
<td>1956</td>
<td>1,112.8</td>
<td>732.4</td>
<td>11.4</td>
<td>5.2</td>
<td>63.0</td>
<td>20.4</td>
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<td>1,567.0</td>
<td>1,040.8</td>
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<td>58.8</td>
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<td>1958</td>
<td>1,446.5</td>
<td>1,046.7</td>
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<td>1.6</td>
<td>63.2</td>
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<td>1,762.9</td>
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<td>10.9</td>
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<td>61.7</td>
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<td>4,364.1</td>
<td>3,897.2</td>
<td>4.3</td>
<td>5.9</td>
<td>72.0</td>
<td>15.4</td>
<td>2.4</td>
</tr>
<tr>
<td>1966</td>
<td>4,944.4</td>
<td>4,286.2</td>
<td>4.3</td>
<td>6.1</td>
<td>70.8</td>
<td>16.8</td>
<td>2.0</td>
</tr>
<tr>
<td>1967</td>
<td>6,495.3</td>
<td>5,430.6</td>
<td>3.7</td>
<td>5.8</td>
<td>72.6</td>
<td>15.5</td>
<td>2.5</td>
</tr>
<tr>
<td>1968</td>
<td>8,300.1</td>
<td>6,594.3</td>
<td>5.3</td>
<td>4.7</td>
<td>71.0</td>
<td>15.6</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Source: Patrick (1972) p.118.
is possible under the alternative and more conventional methods of varying official discount rates or reserve ratios or the use of open market operations. The execution of monetary policy in Japan has however, generally involved the more or less simultaneous use of all these methods.\textsuperscript{7}

The result of such heavy reliance of direct guidance to control credit supply is the replacement of the price mechanism - that is flexible interest rates, with credit rationing, to regulate demand and supply for funds. Instead of clearing financial markets by varying interest rates, arbitrary quantitative limits are imposed on the lending activities of banks to restrict demand.

Coupled with the use of rationing the Japanese government has also pursued a policy of low and stable interest rates during the post war years.\textsuperscript{8} As huge amounts of funds were required to import modern technology and rebuild industry, it was felt imperative to keep the cost of funds as low as possible. Especially in more recent years with the rapid growth of the government debt, keeping down the interest burden of funding the government deficit has also been another important objective of the low interest rate policy.

The combination of credit rationing and a low interest rate policy has to a large extent shaped the financial system in Japan - particularly the relationships among the corporate sector, the city banks and the government/monetary authorities. By deliberately restricting the cost of bank funds below market levels, the demand for such funds persistently out-strips supply. The aggressive borrowing of corporate business from the city banks has been

\textsuperscript{7} A detailed discussion of the major reasons is provided by Ackley & Ishi (1976) pp. 202-204.
\textsuperscript{8} Royama (1983) p.7.
referred to as "over-borrowing", and conversely as "over-lending" by these banks.\(^9\) In such a situation it would be in the interest of corporate business to develop close relationships with its principal financiers so as to maximise the availability of such low-cost funds. As mentioned previously, this has been manifested in the form of cross-shareholdings between the banks and their principal customers as well as the organisation of business groups around a major bank.

**Role of Principal Bank**

The roles and function of the principal bank in the business groups and its relationship with the member firms ensures that the bank would have an important and direct role in financing their investment activities, including dfi. The main bank fulfils a major risk sharing role in the group in that it has an implicit contract with the member firms to ensure them against business failure.\(^10\) When a firm is in financial distress, the main bank is expected to provide support by rolling over existing loans and expanding loans to cover losses and through this signal of support ensure that other banks follow suit, thereby saving the firm from business failure. In return, member firms are expected to raise the largest share of their bank loans from the group bank and not to exploit short-term conditions in capital markets, for example by maintaining higher and allocate the largest share of their banking business stable outstanding levels of debt in times of a downturn in demand for funds.\(^11\)

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In addition, the bank is closely involved in the internal affairs of the firm.\(^{12}\) Investment strategies and financing plans are prepared in close consultation with the principal bank and regular reports of a firm's performance are also provided. In many cases, the relationship and communication between a firm and its principal bank are strengthened by cross-shareholdings and board representation.

Given the pervasiveness of such business groups among Japanese firms - in 1982 almost two thirds of the firms listed on the Tokyo Stock Exchange (First Section) belonged to one of the six major groups and over ninety per cent were affiliated with some form of financial or other corporate grouping\(^ {13}\) - and the close involvement of a firm's principal bank in its management and planning, it becomes very apparent why Japanese banks have been an important source of funds for Japanese dfi activities.

The provision of funds for the overseas operations of a firm by its principal and other banks is merely another facet of a long term lender-borrower relationship which the firm in particular, and the bank as well, are keen to foster and maintain. From the survey undertaken for the thesis, all the firms that were interviewed stated that maintaining good relations with their banks has been and will continue to be a primary concern in their financing activities. The banks, on the other hand, have followed their principal customers overseas and set up operations where Japanese firms have undertaken dfi, so as to be in a better position to service their established customers.

The low interest rate policy pursued by the Japanese government has kept Japanese bank loans cost competitive with other non-Japanese sources of funds. However as discussed in Chapter 4, other considerations such as foreign exchange risks and effects on balance sheet presentation, appear to have become more important in recent years with the increase in size of capital requirements for dfi. The response of the Japanese banks to these developments will be discussed in the last section in which the impact of the internationalisation of their activities on financing Japanese dfi will be examined.

5.2 ROLE OF THE BANKS IN EXIM CO-FINANCING.

Having established the reason for Japanese banks to have an important role in the financing of the dfi activities of Japanese firms, the next concern is to examine their role in the EXIM co-financing arrangements. It is suggested that Ozawa was probably referring to these financial arrangements in his proposition that the provision of funds by the Japanese government and its closely controlled financial sector were instrumental in the rapid growth of Japanese dfi.

From the survey conducted among the Japanese banks and Japanese firms, it was found that in addition to providing loans, the banks have important advisory, negotiating and organisational roles. The various types of services provided by the banks and how they relate to the other parties concerned, especially the Japanese investing firms and the EXIM Bank will be examined in the first part of this section.

Also, among the banks involved in co-financing, the Industrial Bank of Japan has played a leading role in most cases. Its promi-
ence has been attributed to a number of reasons including its historical ties with the government, its specialisation in long-term financing, and its neutral position among the various industrial groups which will be discussed in the second part. Finally, it will be shown that the selection of banks to participate in a co-financing loan is based primarily on the established relationship between a firm and its banks, as well as among the banks themselves.

**Advisor, Negotiator and Organiser**

Because of their close association with the Japanese investing firms, the banks are involved in the whole process of evaluating the feasibility, planning and arranging the funding requirements and providing part of the funds required for a project. Through these stages, the banks perform various important functions.

For any EXIM-co-financing package a number of banks is normally involved in providing funds. However, one particular bank would normally be appointed as the lead bank and it would then have the primary responsibility of performing these functions. In most resources development projects, the lead bank has been the Industrial Bank of Japan for reasons which will be discussed in the following section. In other cases, which usually involve firms from only one industrial group, the principal bank of the firms/group has the role of the lead bank e.g. Mitsui Bank would be the lead bank for a dfi project undertaken by Mitsui Trading and other firms of the Mitsui group.

The first function that the lead bank has in any dfi project is to provide advice on its economic feasibility. The degree of involvement varies to some extent but it is involved usually from
quite an early stage after conception of the project. In projects which the Japanese government may have some political interest or which are very large and risky, the lead bank is involved even in the initial study stage and in the preparation of feasibility studies. In other cases, the bank may be restricted to evaluating the feasibility studies that have been prepared by the majority foreign partners and to advising their Japanese clients accordingly.

Following upon its evaluation of the project, the bank is also able to advise the Japanese firms on negotiating terms for investment with their overseas joint-venture partners. The generally much wider experience that the banks have in dfi projects compared with the firm, is of considerable value in such matters. Sometimes the bank may even be directly involved in the negotiation process.

Another important function that the lead bank performs is in providing advice for formulating financing plans for a dfi project. The bank also works closely with their clients in the preparation of financial documents such as projected cashflow statements and financing/loan disbursement programs, which are required for submission to EXIM and all the banks participating in the co-financing package. As the terms for EXIM loans under these co-financing arrangements are flexible, though within limits, the lead bank also plays an important part in negotiating with EXIM to try and obtain the best possible terms for their clients.

Finally, the lead bank has the responsibility of co-ordinating the other private banks participating in the financing package. Whilst the selection of participants is primarily determined by the investing firms, the lead bank is also involved in the process. After the composition of the co-financing team is finalised, the
lead bank acts as the representative in dealing with the other parties, namely EXIM and the borrowing firms and as organiser to ensure that all the banks act in unison during all the stages involved in processing and disbursing the loan.

In addition to the services provided to the borrowing firms, the lead bank sometimes also provides advice to EXIM on the feasibility and economic implications of a project. A senior officer of the Industrial Bank of Japan commented that it is unlikely for a loan application to be rejected by EXIM, after it has been approved by IBJ.

Therefore, it is apparent that the Japanese banks especially IBJ and the group banks play a very central role in EXIM-co-financing. Particularly as lead bank, they are involved in every stage of decision-making, and their evaluation of a project appears to be critical for the decision by Japanese firms to proceed with an investment and for EXIM to provide funds.

Special Position of IBJ

The Industrial Bank of Japan (IBJ) has been the lead bank in most of the major dfi projects undertaken by Japanese firms. According to survey interviewees the principal reasons for its prominence include its historically close ties with the government, specialisation in long-term financing, its non-alignment with any industrial group and its expertise and resources for project appraisal and loan syndication.

IBJ was initially established as a government bank, although it has been sold to private interests and is now 100 per cent privately owned. As a result IBJ has very close ties with the government, with many of its employees seconded to government banks.
and ministries, and its senior management appointed to advisory bodies serving a number of ministries. Further, IBJ was very involved in training staff and setting up systems for the EXIM Bank's loan departments during the latter's establishment. As a result of these close links with the government, one would expect IBJ to have considerable influence on the political allocation of EXIM loans. The Japanese firms, which are eager to maximise access to these funds would then be strongly drawn to the bank.

Even more important perhaps are the very close ties that IBJ has developed with the major companies undertaking dfi. IBJ was predominantly engaged in financing long-term loans for capital investment, in contrast to the city banks which had concentrated on trade financing. Through the rapid growth periods of the 1950s and 1960s, IBJ was the principal source of long-term financing for the major companies in the heavy industries, which have become important investors in resources dfri. In effect, IBJ is the principal bank as far as long-term financing is concerned, and has been preferred over city-banks as the lead bank in many cases.

Particularly in projects involving more than one industrial group, IBJ is preferred to the principal bank of any one group as the lead bank for a project. This avoids a conflict of interest for the lead bank as well as the dominance of any particular group in the project, thus facilitating decision-making and consensus building among all the participating firms.

Finally, the expertise and resources that IBJ has built up over many years of financing large capital investment projects, initially in Japan and more recently overseas, has placed it in a better position than other banks to provide information and advice to their clients. In evaluating a project, accurate information on
a wide range of issues is essential: e.g. economic outlook of the world and of home and host countries; long-term demand and production forecasts; bilateral tax arrangements between Japan and the host country; political risks; and the corporate strength and technical expertise of joint-venture partners etc. Compared to the city banks, IBJ has a much larger and experienced research force to generate such information and evaluate projects.

It has been shown that the prominent position that IBJ has enjoyed in financing resources dfi was largely due to its origins as a major government-owned bank that was established principally to provide long-term financing to key industries. However, in recent years, some city banks, especially Sumitomo Bank and Fuji Bank have been very active and are making inroads into IBJ's entrenched position in this area.

**Selection of Co-financing Banks**

All the banks, Japanese as well as foreign-owned banks have been very keen to participate in EXIM-co-financing loans for dfi projects. However, until 1980, only Japanese banks could participate and all foreign-owned banks were excluded. Even though this restriction has been lifted by EXIM, the foreign banks have not been able to make much progress because of the close ties between the Japanese firms and their banks. As for all other forms of banking business, there has to be exceptionally strong reasons for Japanese firms to deal with foreign banks, and so far they have not found many for the co-financing loans.

The choice of participating banks depends on a number of factors, the most important being the relationship between the bank and the Japanese firm. Because of their extensive borrowing from
the banks, all Japanese firms would normally have relationships with a number of banks - for major companies, around twenty or more. Among these banks usually one (or sometimes two) would be considered as the principal bank, and which would have the largest share of the firm's banking business. For firms belonging to an industrial group, the principal bank of the group would have this role. In any case, there would be a ranking of all the banks that a firm deals with, which remains relatively stable. The inclusion and degree of involvement (share of loan) of any bank hence depends very much on its relative ranking.

However, the amount that a bank can co-finance may be constrained by the loan limits set by the Bank of Japan. Currently, loans to any one borrower cannot exceed 30 per cent of a Bank's capital in the case of long-term banks, 20 per cent for city banks, and 40 per cent for the Bank of Tokyo.\textsuperscript{14} Especially in periods of tight money or if a project is very large, a bank may also not have sufficient funds to take as large a share as it would like to.

In addition to their ties with the borrowing firms, their relationships with the lead bank is another important consideration. As the lead bank is so heavily involved in the total planning and financing of a project, it exerts considerable influence on the selection process and reciprocity by the lead bank becomes a key factor.

Finally, the relationship between a bank and the host country is important, especially if Japanese firms have very little experience with that country and the political risks are perceived to be high. In these cases, the Bank of Tokyo often has an edge.

over its competitors, because of its long history in overseas banking and its role as the main channel for inter-government transfer of funds between Japan and other countries. The final composition of the participants in a co-financing loan would be determined by consultation between the lead bank and the investing firms taking into consideration all these factors.

It has been shown that the underlying relationship between the major banks and the investing firms has been the key factor underlying their role in the EXIM co-financing arrangements. The opportunity for any bank to participate in a co-financing loan, and the level of participation is also a function of its relationship with the firms. The principal bank of the investing firms, as the lead bank, participates directly in all stages of the decision-making for a dfi project - feasibility study, financial planning and selection of co-financing banks - as well as providing funds for the project. In the process, the lead bank performs the various roles of advisor, negotiator and organiser for the Japanese firms and to a certain extent, for EXIM as well. It was also found that one of the main reasons for the prominent position that IBJ has enjoyed in financing dfi resources has been the close ties that it has developed with the major companies undertaking dfi, through the financing of their domestic investments.

The close co-ordination and co-operation among the Japanese government, banks and the firms undertaking dfi, in arranging the EXIM co-financing loans could have been the basis for Ozawa's hypothesis of the operation of a macro-technostructure. Although these relationships may be conceptualised along those lines, it is contended that there is nevertheless no support for the proposition that they were instrumental in promoting dfi. The organisation of
an EXIM co-financing loan is an extension of the normal banker-lender relationship between the Japanese bank and its client. The Japanese firm approaches its bank to discuss and evaluate its investment proposals and to plan for their financing as a routine procedure. Likewise it is also procedural for the Japanese bank to perform the key co-ordinating role in raising government financing. There is, therefore, no question of these relationships having any impact on the investment decisions of a firm, other than in assisting with project evaluation.

5.3 INTERNATIONALISATION OF JAPANESE BANKS

In this final section, the impact of the internationalisation of Japanese banks on the financing of Japanese dfi will be briefly examined. The 1970s saw a rapid expansion of the international activities of Japanese banks, in parallel with the growth of Japanese dfi activities. It is expected that these developments would result in the Japanese firms becoming more sophisticated in the use of international sources of funds such as Eurobonds or project financing on the one hand, and on the other for the Japanese banks to be in a position to offer a wider range of financing alternatives to these firms. Given the close relationships between the banks and the Japanese firms, it is also expected that developments in international banking expertise of the banks and financing requirements of the firms would have a strong influence on, as well as be influenced by, each other. These issues will be considered in the following discussion which will be principally based on information obtained from the thesis survey.

As with most nations, the Japanese banks had ventured overseas to service their customers. Initially the objective was to
accommodate the trade financing requirements of the major companies.15 With the expansion of Japanese dfi since the late sixties, the servicing of Japanese overseas subsidiaries also became a very important part of the international activities of the banks. However, the overseas branches of the Japanese banks had to compete against local banks as well as international banks, which were able to offer a much wider range of banking services to the Japanese subsidiaries. As a consequence the Japanese banks were forced to try and match the services provided by their competitors. For example, according to a senior officer of Citibank, the largest foreign bank operating in Japan, the Japanese banks had lagged behind other banks in project financing but in the last few years, they have been very aggressive and catching up.16

Although the initial thrust of the Japanese banks overseas operations was to service Japanese companies, they soon diversified their business and have become very active in lending to non-Japanese corporations, financial institutions and foreign governments.17 Several Japanese banks have also absorbed some US banks to enhance their position in the US financial markets.18 The rapid expansion of the international activities of Japanese banks has been credited, among other factors, to a decline in domestic profits and positive regulatory measures by the Japanese government to support the banks' overseas operations.19

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15. The total volume of Japanese international trade had grown a hundred fold over the past thirty years to over US$200 billion and has been a major growth sector of Japanese banking business. [Hayden (1980) p.9.]
16. This was also reported in an article in the Japan Economic Journal on 27th September 1983.
Since their initial forays into the international capital markets in the early seventies, the Japanese banks are now a major force in these markets. In 1983, total overseas lending of Japanese banks is estimated at US$120 billion,20 between 10 to 15 per cent of total commercial lending - their share of the international loans market has been restricted to this level by Japanese government policy. In that year, Japanese banks operating in London overtook both US and European rivals as the most active banks in the international capital market. They were extremely active in both the Eurobond and the syndicated credits markets, accounting for about 27 per cent of the Euromarket compared to 22 per cent for US banks and 20 per cent for UK banks.21

An indication of the maturity of the Japanese banks in the field of international banking is the performance of the Bank of Tokyo (BOT) even though it has traditionally been given an edge over the other banks in international operations by the Japanese government. In 1981, the share of profits of the BOT from international operations was 68 per cent and this grew to 77 per cent in 1982. The total assets of the bank's overseas subsidiaries in 1983 amounted to about 15 per cent of the parent bank's assets.22 More significantly, in late 1983, the Bank of Tokyo became the first Japanese bank to head an international banking consortium in providing a project financing loan of $1.1 billion dollars for an Australian coal project. The Japanese banks have been lagging behind their European and US counterparts in project

financing and this was seen as an important breakthrough which could enhance the role of Japanese banks in future resources projects. The designation was attributed to the Bank of Tokyo being the most active bank in arranging syndicated loans in 1982 and the key role it played in financing coal projects in Canada and Australia.23

The international financing expertise and role that Japanese banks have acquired appears to have affected the financing behaviour of Japanese firms. The tapping of international sources of funds by the corporate sector has followed the growth of international activities of the banks. Although Japanese companies commenced raising funds in the European market in 1963 and the US market in 1970, it was only after 1974 that overseas corporate financing really took off. In the five years from 1974 to 1978, Eurobond issues increased ten-fold from US$245.6 million to US$2662 million.24

Another development which also provides support for this proposition is the very recent use of project financing by Japanese firms. Although this form of funding for major development projects have been around for sometime, it was only in the last few years, that Japanese firms employed project financing for their dfi projects - Quintette and Gregg River coal projects in Canada in 1982. The key role of the Japanese banks in putting the financing package together with other banks was instrumental. With the acquisition of such expertise by the Japanese banks, it is expected that in future resources projects, project financing would be more widely used.

In conclusion, the internationalisation of the Japanese banks is expected to result in a greater diversification of sources of funds for Japanese dfi - from Japanese bank loans to a range including:

- equity issues on foreign markets
- long-term debt flotations or placements on foreign markets
- long-term debt or convertible issues on the Euro- or Asian-currency markets.
- syndicated medium-term loans on the domestic market or on the Euro- or Asian-currency markets
- project financing.

However, the close relationship between Japanese banks and their major customers will remain basically unchanged. Its relative importance as a source of financing (in the form of direct bank loans) may be diminished as a result of the steady trend from indirect to direct financing by their customers. However the Japanese banks will still play a key role in the financing operations of the firms in arranging and raising alternate sources such as underwriting bonds or syndicated loans. As the Japanese banks acquire more experience and expertise in international finance, it is also expected that Japanese firms will be able to benefit from it and adopt a more international approach to their financial planning.

CHAPTER SIX

Government Financing of Resources Development

Having established that government financing, and especially EXIM financing, has been significant for resources dfi projects, the next concern of this thesis is to provide a critical analysis of the provision of such loans by the Japanese government. In this chapter, the questions of how have these loans been provided, what has been the cost of the subsidy and whether they have had any impact on the rate of dfi in resources development will be addressed. The welfare implications for both the Japanese and host country economies will be discussed in the following chapter.

In the first section of this chapter, the functions and funding activities of the two principal government institutions involved in financing dfi resources development - namely the EXIM Bank and OECF - will be examined. The purpose is to identify the objectives of such government intervention and the means by which such policies have been implemented.

The next concern is to assess the direct costs of such government intervention in terms of the effective cost subsidy by the government. In addition to estimating the subsidy provided, a sensitivity analysis of the key explanatory variables will also be made.

Finally, the impact of these government measures on the level of Japanese dfi in resources development will be examined. It has been argued that low-cost government funds should be provided as private financial institutions are unable or unwilling to meet the financing requirements of some dfi projects because of the large amounts of long-term funds required and the associated high
financial risks. Through the availability of government sources of funds, investments which would otherwise not have been possible, could be undertaken, resulting in higher levels of dfi. The validity of this argument will be examined in the last section.

6.1 GOVERNMENT FINANCIAL ASSISTANCE

The complete range of financial assistance provided by the Japanese government to encourage and promote activities associated with the development of overseas natural resources is shown in Figure 4.1. Among the six organisations listed in the figure, only the Export-Import Bank (EXIM) and the Overseas Economic Co-operation Fund (OECF) provide funds for the development stage of a resource project. However, some financial assistance is also provided by three other organisations in the form of guarantees for loans to finance development.

In the following discussion, the focus will be on the functions of the EXIM Bank because of its leading role in providing funds to Japanese dfi projects. The role of the OECF will also be briefly examined. The discussion will be primarily based on information obtained from interviews with officials of these two institutions publications.

Export-Import Bank of Japan (EXIM)

Functions

In an official publication produced by the EXIM Bank concerning its role and function, the objective of the Bank was set out as follows.

**Figure 6.1: Government Institutional Finance in Japan**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Phase</th>
<th>Support</th>
<th>Activity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan National Oil Corp. (JNOC)</td>
<td>Exploration Stage</td>
<td>Investment or Loan</td>
<td>Oil &amp; Gas Exploration</td>
<td></td>
</tr>
<tr>
<td>New Energy Development Organization (NEDO)</td>
<td>Development Stage</td>
<td>Subsidy</td>
<td>Overseas Coal Project Finding</td>
<td></td>
</tr>
<tr>
<td>Japan International Cooperation Agency (JICA)</td>
<td></td>
<td>Loan or Guarantee</td>
<td>Borrowings incurred for Development</td>
<td></td>
</tr>
<tr>
<td>Overseas Economic Cooperation Fund (OECF)</td>
<td></td>
<td>Investment or Loan or Guarantee</td>
<td>Borrowings incurred for Development</td>
<td></td>
</tr>
<tr>
<td>Export-Import Bank of Japan (EXIM)</td>
<td></td>
<td>Loan</td>
<td>Exploration Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** IBJ (1982), Internal Working Paper
The Export-Import Bank of Japan, an independent governmental organisation aims to facilitate Japan's economic interchanges with foreign countries by providing financial facilities to supplement and/or encourage financing by commercial banks and other financial institutions.\(^2\)

In line with this objective, the Bank's primary function is therefore, to provide loans for the purposes of promoting trade or direct foreign investments by Japanese firms, with these loans being designed to serve as a supplement or encouragement to the private banks to provide the additional financing required. The rationale is that private funds are often insufficient to meet the large amounts of long-term funds required and the considerable financial risks accompanying certain projects also tend to deter private institutions from taking the initiative in extending financial assistance.

As a result of the following national economic objectives that were set by the Japanese government for the 1980's:\(^3\)

\begin{itemize}
  \item ensuring economic security through stable long-term supply of natural resources and energy; and
  \item promoting international division of labor through transfer of certain industries to developing countries and horizontal division of labor with developed countries;
\end{itemize}

the Bank has in recent years placed special emphasis on promoting the development and import of natural resources, particularly energy resources and overseas investment in manufacturing and other sectors.\(^4\)

To provide funds for the development of resource projects in which Japanese firms have equity participation EXIM Bank operates a

---

2. EXIM (1976) p.4.
number of financing programs which fall into two categories - loans to domestic corporations (which have been the principal form of EXIM financing of Japanese dfi) and loans to foreign governments and corporations.

**Loans to Domestic Corporations**

In this category, loans are provided to Japanese firms as "import credits" or "overseas investment credits". "Import credits" are provided to Japanese firms in their capacity as importers (rather than investors) of essential resources and are to be utilised as loans to the foreign exporter/shipper for resource development as shown in Figure 6.2.

In contrast, "overseas investment credits" are specifically designed for dfi activities and funds are provided for Japanese firms to finance their equity participation in, as well as extend loans to dfi projects. Under this program, these firms can also borrow and on-lend the funds to their foreign partners, to finance their equity participation in the project. The relationships and flow of funds among the various parties under this financing program is shown in Figure 6.3.

"Import credits" are normally restricted to projects involving "essential" resources, although the classification of such resources have changed over time. In recent years this classification has been applied to energy resources mainly, whereas during the late sixties, "import credits" were provided for iron ore projects too. In principle, "overseas investment credits" can be obtained for any dfi project in resources development or manufacturing. These loans are therefore available for a much wider range of dfi projects than import credits. However both
types of credits are not available for dfi in the tertiary sector which explains to a large extent, the relatively low levels of government financing noted in Chapter 4 (Table 4.1).

As at the beginning of 1982, the interest rate applicable to both types of loans lies within the range of 6 per cent to 9 per cent. This compares with the then long-term prime rate of about 8.4 per cent. For any specific loan or project, the interest rate is determined, amongst other factors, by the type of investment project. In recent years, the general rule has been for energy projects to enjoy the most favourable interest rates because of the top priority being given by the government to security of energy resources, and the high risks that are perceived to be associated with such projects. At the other end of the scale are manufacturing projects where financing costs are considered to be much less critical because of relatively low risks and capital requirements. The following scale of interest rates was generally
Figure 6.3
Overseas Investment Credits

(a) Equity participation in foreign corporations

(b) Loans to foreign entities for their equity participation in foreign firms of which shares are owned by Japanese entities

(c) Loans to foreign entities to meet the long-term fund requirements of their enterprises operating outside Japan

(d) Equity participation in Japanese corporations established for the sole purpose of making overseas investments in the forms specified in (a), (b) and (c)

(e) Funds required by Japanese entities for operating projects overseas
- The Export-Import Bank of Japan [Credit] → Japanese Entity doing a Project Overseas

Table 6.1
EXIM Interest Rates in 1982 By Type of Project

<table>
<thead>
<tr>
<th>Type of Project</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy resources</td>
<td>6.00 - 6.50</td>
</tr>
<tr>
<td>Other Natural Resources</td>
<td>7.55 - 8.20</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>8.25 - 8.80</td>
</tr>
</tbody>
</table>


Applicable in 1982 for the different types of dfi projects (Table 6.1). It can be seen from this Table, that the cost differential between EXIM loans and loans from the Japanese banking system for energy resources is much larger than that for manufacturing. Using the median values, and the private bank's prime long-term rate of 8.4 per cent, the interest differential for energy projects in 1982 was 2.15 per cent resulting in an effective cost savings of 25.6 per cent whereas for manufacturing projects, the interest differential and the savings, were negative (Table 6.2). The reason for the limited use of EXIM funds by the major firms in electronics manufacturing dfi is therefore very apparent.

The term of these loans is normally between five to ten years, but there have been a number of cases where the term was more than ten years. The amount provided generally varies between 50 per cent to 80 per cent of the capital funds required. Both the term and amount of the loan are determined, among other factors, by the importance placed on the particular resource at the time of the application, and the risk of the project.
Table 6.2

Relative Cost Savings from EXIM Loans

<table>
<thead>
<tr>
<th>Type of projects</th>
<th>EXIM interest rates median value</th>
<th>Interest differential</th>
<th>Per cent Effective cost savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Resources</td>
<td>6.25</td>
<td>2.15</td>
<td>25.6</td>
</tr>
<tr>
<td>Other Natural Resources</td>
<td>7.88</td>
<td>0.52</td>
<td>6.2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>8.53</td>
<td>-0.13</td>
<td>-1.5</td>
</tr>
</tbody>
</table>

The priority ranking of a resource is determined by the government on the basis of its industrial policies and perceived economic needs at the time. For example during the 1960s, coking coal and iron ore projects had top priority because of the development of heavy industries whereas since the oil crisis in 1973-74, energy resources have taken over. The riskiness of a project is evaluated in terms of financial risk - that is the size of a project - and political risks. In principle, the higher priority and more risky the project, the greater the financial assistance will be provided by the Bank through a longer repayment period and a larger amount of loan.

Loans to Foreign Governments and Corporations

The specific objectives of these loans include the promotion of the development and import into Japan of vital resources and encouragement of Japan's overseas direct investment.6 "Overseas investment direct loans" are extended to foreign governments for funds for equity participation in foreign corporations which have Japanese equity participation. However these loans are provided

---

only under exceptional circumstances, as the Bank would normally prefer to provide such funds through the Japanese firms as "overseas investment credits" as discussed earlier. EXIM also extends "untied direct loans" to foreign governments and financial institutions to provide them with long-term funds for natural resource development projects, especially in the energy field. (Figure 6.4) There are no published guidelines on the terms and conditions of these loans. Instead, as these loans have implications for Japan's long-term trade and foreign policy objectives, these considerations have been primary in setting the terms of a loan.

These types of loans to foreign governments and corporations are relatively recent innovations and as at mid-1982, had been extended in only three instances - Carajas iron ore project in Brazil, Bintulu LNG project in Malaysia, and for coal and oil developments in China.

As shown in Table 6.3, the various financing programs for Japanese dfi activities have represented an important part of the EXIM Bank's credit commitments. Even excluding import credits which is also used to finance imports unrelated to dfi, overseas investment credits (15.4 per cent) and overseas direct loans (22.2 per cent) together accounted for an average of 37.6 per cent of EXIM credit commitments for the period from 1972 to 1982. If it is assumed that only half of the import credits (19.5 per cent) were for dfi purposes, then the financing of Japanese dfi would account for almost 50 per cent of EXIM's loan activities.
UNTIED DIRECT LOANS

The Bank extends this type of loan to foreign governments and financial institutions to provide them with long-term funds for natural resource development projects, especially in the energy field.

OVERSEAS INVESTMENT DIRECT LOANS

The Bank extends this type of loan primarily to foreign governments for equity participation in foreign corporations which have Japanese equity participation.

Table 6.3

EXIM bank credit commitments

| Fiscal year | Export credits | Import supplies' credit | Overseas investment | Overseas direct credits | Overseas Projects | TOTAL Amount%
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>amount</td>
<td>%</td>
<td>amount</td>
<td>%</td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td>1972</td>
<td>366.4</td>
<td>56.7</td>
<td>99.1</td>
<td>15.3</td>
<td>73.9</td>
<td>11.4</td>
</tr>
<tr>
<td>1973</td>
<td>230.0</td>
<td>31.1</td>
<td>186.9</td>
<td>25.2</td>
<td>185.8</td>
<td>25.1</td>
</tr>
<tr>
<td>1974</td>
<td>267.4</td>
<td>26.5</td>
<td>243.1</td>
<td>24.1</td>
<td>144.7</td>
<td>14.4</td>
</tr>
<tr>
<td>1975</td>
<td>481.3</td>
<td>50.2</td>
<td>120.1</td>
<td>12.5</td>
<td>128.2</td>
<td>13.4</td>
</tr>
<tr>
<td>1976</td>
<td>629.2</td>
<td>50.0</td>
<td>102.3</td>
<td>8.1</td>
<td>127.7</td>
<td>10.2</td>
</tr>
<tr>
<td>1977</td>
<td>540.3</td>
<td>59.9</td>
<td>90.7</td>
<td>10.1</td>
<td>62.4</td>
<td>6.9</td>
</tr>
<tr>
<td>1978</td>
<td>324.0</td>
<td>27.6</td>
<td>583.5</td>
<td>49.7</td>
<td>125.2</td>
<td>10.7</td>
</tr>
<tr>
<td>1979</td>
<td>342.1</td>
<td>40.8</td>
<td>319.4</td>
<td>38.0</td>
<td>119.0</td>
<td>14.2</td>
</tr>
<tr>
<td>1980</td>
<td>415.9</td>
<td>44.9</td>
<td>8.6</td>
<td>0.9</td>
<td>215.9</td>
<td>23.3</td>
</tr>
<tr>
<td>1981</td>
<td>677.0</td>
<td>41.8</td>
<td>147.8</td>
<td>9.1</td>
<td>333.5</td>
<td>20.6</td>
</tr>
<tr>
<td>1982</td>
<td>489.3</td>
<td>37.8</td>
<td>283.6</td>
<td>21.9</td>
<td>251.9</td>
<td>19.4</td>
</tr>
</tbody>
</table>


The Overseas Economic Cooperation Fund (OECF)

The Fund was established in 1960 to provide development loans at concessional interest rates for projects in developing countries. Essentially these loans differ from EXIM Bank loans in that they are available for developing countries only and enjoy much lower interest rates. In addition to providing loans, the OECF is also authorised to have equity participation in Japanese corporations whereas the EXIM Bank is not. 7 OECF funds are

channelled into projects with Japanese equity participation through (1) loans to foreign governments (including governmental agencies and local public corporations); and (2) loans to and equity investments in Japanese corporations involved in these development projects. The criterion for the provision of these loans and equity investments is that they are essential for the development of a project to proceed.

According to an official from OECF, the policy in 1982 is for interest rates for loans to foreign government to be less than 4 per cent and repayment periods of about 30 years with a grace period of 10 years. In the case of loans to Japanese corporations, the policy is for interest rates of 5 per cent to 7 per cent and repayment periods of five to 10 years and a grace period of less than five years.8

6.2 ESTIMATION OF GOVERNMENT SUBSIDY

The provision of concessionary financing for Japanese dfi activities through the EXIM Bank and OECF results in a subsidy accruing to both the Japanese firms and their foreign partners, to which such loans have been extended. In this section, the objective is to derive an estimate of the subsidy provided by the Japanese government. As mentioned above and discussed in Chapter 4, the principal form of concessionary financing for Japanese dfi has been loans from the EXIM Bank to Japanese firms and foreign

8. According to the 1980 Annual Report of the OECF, for loans to foreign governments that were approved in FY 1980, the average interest rate was 3.1 per cent, the average repayment period was 28 years and 9 months (including an average grace period of 9 years 5 months). For loans to Japanese corporations, the average interest rate was 5.98 per cent and the average repayment period was 6 years and one month (including an average grace period of one year and 9 months).
governments. However, as the terms of direct loans to foreign
governments and financial institutions by EXIM are apparently too
politically sensitive even to publish broad guidelines, only an
estimate of the subsidy provided through EXIM loans to Japanese
firms will be attempted.

Estimation Model

To calculate the subsidy provided by EXIM loans, the
opportunity cost of these funds must first be determined. A lower bound on the opportunity cost is the interest rate at which
EXIM borrows its funds, and the Bank's primary lender is the
government's Trust Fund Bureau, which in turn obtains its funds from national postal savings and welfare insurance programs. An estimate of the average cost of EXIM's borrowings based on the interest expense and outstanding borrowings reported in the Bank's Annual Reports, for the period from 1980 to 1983 is about 7.5 per cent as shown in Table 6.4. However funds employed by EXIM could have been diverted to other forms of government expenditure, which as result have to be financed by the issue of government bonds in the domestic capital market. These issues increase the demand for funds, and some borrowers at the margin will be crowded out.

The projects that are crowded out would have marginal returns close to the market rate of interest otherwise they would have been

10. The following discussion follows closely the line of argument used by D. Baron in his study of the Export-Import Bank of the U.S. Baron (1983) p.142.
11. EXIM can also raise funds from foreign financial institutions in the form of foreign currency-denominated loans and from international capital markets through the issuance of foreign-currency denominated bonds. However up until mid-1982, EXIM had limited use of these alternatives for obvious cost reasons.
Table 6.4
Average Cost of Borrowings of EXIM - 1980 to 1983

<table>
<thead>
<tr>
<th>Year</th>
<th>Interest on Borrowings (¥ million)</th>
<th>Outstanding Borrowings (¥ million)</th>
<th>Average Interest Rate (3)=(1)/(2)×100 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>307,811</td>
<td>4,060,887</td>
<td>7.58</td>
</tr>
<tr>
<td>1981</td>
<td>325,457</td>
<td>4,162,474</td>
<td>7.82</td>
</tr>
<tr>
<td>1982</td>
<td>332,671</td>
<td>4,581,554</td>
<td>7.26</td>
</tr>
<tr>
<td>1983</td>
<td>361,439</td>
<td>4,994,570</td>
<td>7.24</td>
</tr>
</tbody>
</table>


financed at the higher interest rate. However, some borrowers that are crowded out of the Japanese capital market will obtain funds from international capital markets, usually in the form of Eurodollar borrowings, and for them the subsidy effect of EXIM loans is the difference in the costs between EXIM and then Eurodollar loans. Therefore, to take into consideration the full benefit of EXIM loans to the borrower, the interest rate of Eurodollar borrowings should be used as the opportunity cost of EXIM financing.

In addition to the opportunity cost of EXIM funds, the size of the subsidy provided by an EXIM loan is also affected by the terms of repayment. The longer the term of the loan, the greater will be the subsidy. Also, the "grace periods" allowed by the Bank, during which repayment of principal is deferred, would increase the subsidy effects.

In a study about the U.S. Export-Import Bank, Baron (1983) used a model which takes into consideration all these factors to
estimate the subsidy effects of the U.S. EXIM bank loans. The derivation of the model is as follows:\textsuperscript{12}

If L is the loan amount, T is the term of the loan and M is the grace period during which no principal is repaid, but interest is paid on the outstanding balance, principal repayments will be made to EXIM at an annual rate of \( \frac{L}{T - M} \).

To determine the subsidy let \( r \) equal the interest rate of the loan L, and \( i \) equal the interest rate at which the investor can borrow in the international capital markets. Also assume that the discount rate is equal to \( i \). With continuous interest payments and discounting, the present value \( PV \) of the principal and interest payments on the EXIM loan is:

\[
PV^E = \int_0^M Lre^{-it}dt + \int_M^T \frac{L}{T-M} (1 + (T-t)r)e^{-it}dt
\]

\[
= \frac{L}{i(T-M)} [(1 - \frac{r}{i})(e^{-iM} - e^{-iT}) + r(T-M)]
\]

where

\[
\frac{L}{i(T-M)} (e^{-iM} - e^{-iT})
\]

is the present value of the principal repayments and

\[
\frac{rL}{i(T-M)} (T - M - \frac{1}{i} (e^{-iM} - e^{-iT}))
\]

is the present value of the interest payments. Borrowing L privately instead of from EXIM would require a repayment with present value L. The subsidy S on the EXIM loan then is:

\[
S = L - PV^E = L(1 - \frac{r}{i})[1 - (e^{-iM} - e^{-iT})/(i(T-M))]
\]

and the subsidy rate \( s \) which is derived by dividing \( S/L \) is:

\[
s = (1-r/i)[1 - (e^{-iM} - e^{-iT})/(i(T-M))]
\]

\textsuperscript{12}. Baron (1983) p.178.
where \( s \) is the subsidy rate per currency unit;
\( r \) is the EXIM lending rate;
\( i \) is the market interest rate;
\( T \) is the term of the loan; and
\( M \) is the "grace period"

In the next section, this model will be used to estimate the subsidy provided by the EXIM Bank to Japanese firms for dfi in resources development.

**Estimate of Subsidy**

Exact figures for average EXIM lending rates (\( r \)), the average term of these loans (\( T \)) and their grace periods (\( M \)) are not available. However, as discussed above, a range of values for these variables is known and the following median values will be used as an approximation of the average values:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Range of Values</th>
<th>Median Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>( r )</td>
<td>6% to 7.5%</td>
<td>6.75%</td>
</tr>
<tr>
<td>( M )</td>
<td>0 - 2 years</td>
<td>1 year</td>
</tr>
<tr>
<td>( T )</td>
<td>5 - 12 years</td>
<td>8.5 years</td>
</tr>
</tbody>
</table>

To estimate the market interest rate \( i \), the 5-year Eurodollar loan rate plus the average spread estimated for Japanese borrowers in Baron's study are used (Table 6.5). The total value of loans provided by the EXIM Bank to Japanese firms for dfi in resource developments are shown in Table 6.6. Using these values in the model above, estimation of the subsidy provided by EXIM credits to Japanese firms from 1979 to 1981 are set out in Table 6.7.

As shown in the Table, the total subsidy provided by the Japanese government to the Japanese firms over the three year
### Table 6.5
Eurodollar Interest Rates (%).

<table>
<thead>
<tr>
<th>Year</th>
<th>Average 5 year Loan Rate</th>
<th>Average Spread</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>10.60</td>
<td>0.600</td>
<td>11.200</td>
</tr>
<tr>
<td>1980</td>
<td>12.80</td>
<td>0.584</td>
<td>13.384</td>
</tr>
<tr>
<td>1981</td>
<td>15.70</td>
<td>0.597</td>
<td>16.297</td>
</tr>
<tr>
<td>Average 1979-81</td>
<td>13.03</td>
<td>0.591</td>
<td>13.621</td>
</tr>
</tbody>
</table>


### Table 6.6
EXIM Loans to Japanese Firms For Resources Projects

<table>
<thead>
<tr>
<th>Year</th>
<th>Import Credits ¥ billion</th>
<th>Overseas Investment Credits ¥ billion</th>
<th>Total ¥ billion</th>
<th>US$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>118.1</td>
<td>66.4</td>
<td>184.5</td>
<td>604.6</td>
</tr>
<tr>
<td>1976</td>
<td>98.7</td>
<td>67.1</td>
<td>165.8</td>
<td>566.3</td>
</tr>
<tr>
<td>1977</td>
<td>90.7</td>
<td>18.5</td>
<td>109.2</td>
<td>455.0</td>
</tr>
<tr>
<td>1978</td>
<td>322.1</td>
<td>54.1</td>
<td>376.2</td>
<td>1,933.2</td>
</tr>
<tr>
<td>1979</td>
<td>232.2</td>
<td>82.7</td>
<td>314.9</td>
<td>1,313.7</td>
</tr>
<tr>
<td>1980</td>
<td>3.8</td>
<td>165.9</td>
<td>169.7</td>
<td>836.0</td>
</tr>
<tr>
<td>1981</td>
<td>144.6</td>
<td>293.4</td>
<td>438.0</td>
<td>1,991.8</td>
</tr>
<tr>
<td>1982</td>
<td>205.9</td>
<td>178.5</td>
<td>384.4</td>
<td>1,635.7</td>
</tr>
</tbody>
</table>

TOTAL 1216.1 926.6 2142.7 9,336.3

1. Credit commitments.
2. Exchange rates used are shown in Appendix III.
Source: EXIM Bank, Gyomu Hokokusho, 1976 to 1982
Table 6.7
Subsidy Provided By EXIM to Japanese Firms for Resources Development

<table>
<thead>
<tr>
<th></th>
<th>Average Market Rate (%)</th>
<th>Average Subsidy Rate (%)</th>
<th>Amount of loans (¥ billion)</th>
<th>Total Subsidy (¥ billion) (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>11.20</td>
<td>15.70</td>
<td>314.9</td>
<td>49.43</td>
</tr>
<tr>
<td>1980</td>
<td>13.38</td>
<td>22.19</td>
<td>169.7</td>
<td>37.66</td>
</tr>
<tr>
<td>1981</td>
<td>16.30</td>
<td>29.86</td>
<td>438.0</td>
<td>130.79</td>
</tr>
<tr>
<td>1979-81</td>
<td>13.62</td>
<td>22.89</td>
<td>922.6</td>
<td>217.88</td>
</tr>
</tbody>
</table>

1. Exchange rates used are shown in Appendix III.

Period amounts to almost one billion US dollars - US$986.5 million, an average of more than three hundred million US dollars a year. This is a very substantial subsidy and is equivalent to about one third of the total subsidy provided by the EXIM Bank of the United States during the same period. A major proportion of the total subsidy, about 60 per cent, amounting to US $594.8 million, was provided in 1981. This was due to the larger amount of loans provided, but more significantly, to the much higher market interest rates and resulting subsidy rates in that year. The amount of loans provided in 1981 was only 40 per cent greater than in 1979, but the subsidy rate was almost double, resulting in a subsidy that was about three times that of 1979.

This implies that the amount of subsidy is very sensitive to changes in market interest rates and therefore, conversely, EXIM lending rates as the subsidy rate is the difference between these two rates. To show the sensitivity of the subsidy estimated, to

changes in the terms of EXIM credits and in market interest rates, the subsidy rate $s$ was calculated for a range of values for all the four explanatory variables.

It was found that the subsidy rate is very sensitive to changes in interest rates - both the EXIM lending rate $r$ and the market interest rate $i$. As shown in Table 6.8, a 0.75 of one per cent change in the average EXIM lending rate would have resulted in a 2.5 per cent change in the subsidy rate for the period 1979 to 1981 - a more than three-fold change. Also, the effect would be greater for lower levels of market rate $i$, although the difference is not significant as illustrated in Figure 6.5. The differential in the subsidy rate for 1979 with $i = 11.2$ per cent would have been 2.65 per cent, compared to a 2.51 per cent change for 1980 with $i = 13.38$ per cent and a 2.35 per cent change for 1981 with $i = 16.30$ per cent (Table 6.8). The effect of a change in market interest rates on the subsidy rate was also found to be significant. For a loan with $r = 6.75$ per cent, $T = 8.5$ years and $M = 1$ year, a 1 per cent change in the market rate $i$ within the range of 13 per cent to 17 per cent, would result in a change in the subsidy rate of between 2.8 per cent to 2.4 per cent (Table 6.9). The sensitivity of the subsidy rate to changes in the market rate, however, increases with the value of the EXIM rate $r$, but again the change is marginal (Figure 6.6).

The sensitivity tests also show that the subsidy rate is very much affected by changes in the repayment schedule, especially in terms of deferment of principal repayments - grace periods ($M$). By increasing the grace period from zero to 1 year, the increase in the subsidy rate will be between 3.74 per cent to 5.33 per cent for market rates $i$ in the range of 13 per cent to 17 per cent. The
Table 6.8
Subsidy Rates at Various EXIM Lending Rates

<table>
<thead>
<tr>
<th>EXIM rate (r)</th>
<th>0.0600</th>
<th>0.0675</th>
<th>0.0750</th>
<th>0.0825</th>
<th>0.0900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market rate (i):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>0.1120</td>
<td>0.1835</td>
<td>0.1570</td>
<td>0.1305</td>
<td>0.1041</td>
</tr>
<tr>
<td>1980</td>
<td>0.1338</td>
<td>0.2470</td>
<td>0.2219</td>
<td>0.1968</td>
<td>0.1717</td>
</tr>
<tr>
<td>1981</td>
<td>0.1630</td>
<td>0.3221</td>
<td>0.2986</td>
<td>0.2752</td>
<td>0.2517</td>
</tr>
<tr>
<td>1979-1981</td>
<td>0.1363</td>
<td>0.2539</td>
<td>0.2289</td>
<td>0.2040</td>
<td>0.1790</td>
</tr>
</tbody>
</table>

Table 6.9
Subsidy Rates at Various Market Interest Rates

<table>
<thead>
<tr>
<th>EXIM rate (r)</th>
<th>0.0600</th>
<th>0.0675</th>
<th>0.0750</th>
<th>0.0825</th>
<th>0.0900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market rate (i):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.13</td>
<td>0.2364</td>
<td>0.2111</td>
<td>0.1858</td>
<td>0.1604</td>
<td>0.1351</td>
</tr>
<tr>
<td>0.14</td>
<td>0.2639</td>
<td>0.2391</td>
<td>0.2144</td>
<td>0.1897</td>
<td>0.1649</td>
</tr>
<tr>
<td>0.15</td>
<td>0.2900</td>
<td>0.2658</td>
<td>0.2417</td>
<td>0.2175</td>
<td>0.1933</td>
</tr>
<tr>
<td>0.16</td>
<td>0.3149</td>
<td>0.2912</td>
<td>0.2676</td>
<td>0.2440</td>
<td>0.2204</td>
</tr>
<tr>
<td>0.17</td>
<td>0.3385</td>
<td>0.3155</td>
<td>0.2924</td>
<td>0.2693</td>
<td>0.2462</td>
</tr>
</tbody>
</table>
increase of the grace period from 1 to 2 years, however results in a slightly smaller change in the subsidy rate of between 3.30 per cent to 4.49 per cent (Table 6.10). Compared to the grace period (M), changes in the loan repayment period (T-M) have a more modest impact on the subsidy rate. It can be seen from Table 6.11 that an increase of 2.5 years in the repayment period from 7.5 to 10 years would result in a comparable change in the subsidy rate as a 1 year increase in the grace period M.

In summary, it has been shown that the subsidy provided by the EXIM Bank to Japanese firms for the purpose of investing in resources development has been substantial. In the three-year period from 1979 to 1981, the subsidy is estimated at US$986 million about one-third of the total subsidy provided by the EXIM Bank of the United States during that period. However, it should be noted that exact figures for the terms of these EXIM credits were not available for the estimation. Therefore, the figure derived above should only be used as a broad indicator of the significance of the subsidy provided. The subsidy rate is very sensitive to changes in EXIM lending rates (r), market interest rates (i) and the grace period (M) but is less affected by changes in the repayment period of the loan.

6.3 IMPACT OF GOVERNMENT INTERVENTION ON THE LEVEL OF INVESTMENT

Having established that the subsidy provided through concessionary financing for Japanese firms has been significant, the next question is how effective have these loans been in achieving the underlying objective of promoting dfi in resources

14. \( r = 6.75\% \) and loan repayment period \((T-M) = 7.5\ \text{years}\).
Figure 6.5 Relationship between Subsidy Rate and EXIM Lending Rate, for Various Market Rates
Figure 6.6 Relationship between Subsidy Rate and Market Interest Rate, for Various EXIM Rates
Table 6.10
Subsidy Rates for Various Grace Periods
Given Loan Repayment Period (T-M) = 7.5 years

<table>
<thead>
<tr>
<th>Exim rate (r) %</th>
<th>0.0600</th>
<th>0.0675</th>
<th>0.0750</th>
<th>0.0825</th>
<th>0.0900</th>
</tr>
</thead>
</table>

Grace period (M) = 0

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<th>Market rate (i) %</th>
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<td>0.1649</td>
<td>0.1933</td>
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Grace period (M) = 2 years

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Table 6.11
Subsidy Rates for Various Repayment Periods

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</tr>
<tr>
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<td>0.2797</td>
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development. According to the EXIM officials that were inter-
viewed, the Bank had not undertaken any such evaluation of it
policies but acknowledged that an examination of this issue, would
be desirable. In addressing this issue, the key assumptions
underlying the Bank's lending policies will be identified, and,
using information obtained from the survey primarily the validity
of these assumptions will be examined. From this analysis, con-
clusions about the effectiveness of these policies in promoting dfi
will be drawn.

Key Assumptions Underlying Concessionary Financing

The provision of concessionary financing by the government to
promote dfi in resources development is based on several
assumptions: i) the amount of funds required or the risks are so
large that private financial institutions are unable or unwilling
to provide all of the funds; and ii) the demand for funds by
Japanese firms for investment is sensitive to the reduction in the
cost of funds as a result of EXIM loans.

The first assumption has been explicitly spelled out by the
EXIM Bank as the basis for its lending activities, as discussed in
the first part of this chapter. The implication of this assumption
is that as a result of the limited resources and lending policies
of private financial institutions, certain projects would not have
been undertaken without EXIM financing and hence the level of dfi
would have been reduced. To test the validity of this assumption,
the financial resources of private financial institutions and their
lending policies concerning dfi in resources development by
Japanese firms must be examined.
The second assumption that the demand for funds for investment is sensitive to the reduction in the cost of funds is necessary to explain the concessionary rates charged. Even if the first assumption is valid, and EXIM loans do effectively increase the supply of funds, there is no basis for lending at rates below market rates, unless the second assumption also holds true. To evaluate the effectiveness of concessionary financing by the government, it is also necessary to examine whether the demand for funds by Japanese firms to invest in resources projects was significantly increased.

Private Financial Institutions

The contention that private funds are insufficient to meet the large amounts required for dfi in resources projects does not appear to have any basis. Even if the Japanese firms were to rely solely on the Japanese banking system for their requirements, it is unlikely that there would be any problem of resource limitations. In 1979, the fifteen largest banks in Japan were ranked among the world's top sixty, with total assets ranging from US $31.4 billion to US $73.3 billion\(^\text{15}\) whilst the total credits provided by EXIM for resources projects had not exceeded $2 billion in any year between 1975 and 1982 (Table 6.6). Moreover, there is no reason why Japanese firms cannot borrow from non-Japanese financial institutions, should the necessity arise, as evidenced by the increasing use of project financing by Japanese investors. It should also be noted that their foreign partners which often have the major share of a project, would have obtained their share of investment funds from private financial institutions. The issue therefore, is not

\(^\text{15}\) Prindl (1981) p.28.
that funds are absolutely unavailable, but that funds may not be available at a cost which firms are willing to invest at.

The other proposition that the accompanying financial risks may deter private institutions from taking the initiative in providing financing may have a basis under certain circumstances. If a resources project has been undertaken purely as a business proposition, as most projects in the "developed countries" have been, the risks associated with these projects would only be normal commercial risks that private financial institutions should be fully capable of handling. However, where political motives rather than economic feasibility form the basis for a project, private financial institutions may be reluctant to be involved without concessionary financing, by the government. These low-cost loans would reduce the overall financial costs and thereby improve the expected return of the project to an acceptable level for both the private financial institutions as well as the Japanese firms undertaking the investment. Another important element of these loans is the perceived reduction in the political risks of such projects.

It can therefore be concluded that for projects undertaken solely as business ventures, there is no basis to suggest that private financial institutions were unable to or would not provide the necessary funds. In instances, where political considerations dominate, then perhaps a case could be made that without government financing, those projects may not have been undertaken.

Elasticity of Demand for Investment Funds

Next, using information obtained from the thesis survey, the question of whether the demand for investment funds is elastic and
Figure 6.7
Effect of Subsidy on Level of Resources Dfj

sensitive to the reduction in cost of funds as a result of EXIM credits has to be considered. As mentioned in the theoretical discussion of the impact of government concessionary loans on the financing decision in Chapter 2, the subsidy provided could have been intra-marginal with no effect whatsoever on the level of investment of a firm. As shown in Figure 6.7, if the subsidy is provided only for a firm's investment up to \( I_r \) which is less than the optimal \( I^*_J \), then the subsidy would not have affected its level of investment. On the other hand, if the subsidy had been available to finance investment \( I^*_R \), then the marginal cost of capital of the firm would have been reduced from \( i_m \) to \( i_s \) and the level of investment of the firm increased from \( I^*_J \) to \( I^*_R \). Only if the latter case is true can it be claimed that the provision of the subsidy by
the Japanese government has promoted Japanese dfi in resources development.

It can therefore be seen from the figure that the effect of the subsidy on a firm's investment decision is dependent on the position of the marginal efficiency of investment function of a firm. Given the same terms and conditions for the provision of the subsidy, one firm may find that the subsidy is intra-marginal whereas another may not, because of the different sets of investment opportunities available to them. To ensure that the government's objective of promoting dfi is most efficiently achieved, the subsidy should be provided to finance investment $I^*_r$ of a firm.

To determine the effectiveness of the policy in promoting resources dfi, it is necessary to establish where the demand function for investment funds of the Japanese firms is relative to the provision of the government subsidy. The ideal solution is to be able to find out the expected rate of return from each investment in resources projects undertaken by Japanese firms. Then by comparing these expected rates of return with each firm's cost of capital $i_m$, it can be established whether the investments undertaken were intra-marginal or otherwise, and thereby if the interest subsidy had effectively increased the level of Japanese dfi in resources. However, such detailed, highly confidential and sensitive information - especially if it can be shown to be very profitable investments - would not be disclosed or available to parties external to the project.

To overcome this problem, it was decided to directly ask the questions of whether investments in resource projects would have been undertaken, if low-cost financing had not been available and
why. These questions were put to senior managers in thirteen different firms which have been the most important Japanese investors and had undertaken the major share of Japanese resource dfi. Much effort was also made to ensure that the interviewees were appropriate and had been directly involved in the investment and financing decision-making processes. It is therefore felt that the responses are reliable and representative of the overall situation from which useful conclusions can be drawn. These responses also seem very reasonable in terms of the motives and investment behaviour of these firms.

Of the thirteen Japanese firms surveyed, the response from nine of these firms was that the absence of low-cost EXIM credit would not have made any difference; three firms gave a qualified 'no' and only one firm responded that it would have affected their investment decisions.

The main reason provided by the nine firms was that they require a satisfactory rate of return from their investments, and the feasibility studies of dfi projects are based on market interest rates for funds - the "hurdle rate" used is generally a function of the city banks' prime rate, which is the marginal cost of their funds. Any cost savings as a result of EXIM loans are generally treated as providing a wider safety margin for the investing firms. Rather than these cost savings, the role that the dfi projects have in the overall business strategy of a firm is felt to have been the critical factor in their dfi decision. The implication therefore, is that where these firms are concerned, their resources dfi projects represent only a minor proportion of their total investment and the subsidy provided for these projects are intra-marginal - as represented by $I_r$ in Figure 6.7.
As for the three firms that replied that EXIM credits could affect their investment activities, they claimed that without EXIM involvement, financing costs could increase substantially. In addition to the cost differential on EXIM loans, the private banks would also impose higher lending rates because of the increased risks perceived, particularly, if the project is large and the fund requirements substantial. The resulting increase in financing costs could affect the feasibility of a project and therefore the decision to proceed. However, up to the time of the survey, these firms have not encountered such a situation primarily because their investments and capital requirements have been relatively modest. This means that these three firms have also reaped bonus profits from their EXIM loans. However, they differ from the first group of firms in that they may consider undertaking dfi projects which would not be feasible at market interest rates, if there are other compelling reasons.

For this group of firms, the subsidy has also been intra-marginal, but it appears that their resources dfi represent a much more important share of their investment activities. This therefore suggests that the subsidy could have been provided for investments approaching \( I^k \) in Figure 6.7.

The only firm that stated that EXIM loans had been critical in its dfi activities, claimed that some of the projects it had invested in would not otherwise, have met the firm's feasibility requirements. The reduction in financing costs associated with the concessionary EXIM loans as well as the favourable effect on risk evaluation by the private banks and the interest charges on their loans were significant. For this firm, therefore, its demand for funds was sensitive to the reduction in financing costs associated
with EXIM loans, and in this case, the provision of concessionary financing appears to have resulted in an increase in the level of investment.

A possible explanation of the difference between this firm and the other twelve firms covered in the survey is that this firm requires a higher rate of return from its investments. There is insufficient information to verify this, as a majority of the firms were reluctant to disclose exact figures. However, there appears to be no particular reason for this firm to require a significantly higher rate of return.

The more plausible explanation probably lies in the difference in the firm's investment objectives. It was the only firm among those surveyed that had undertaken dfi for the purpose of relocating production overseas and to achieve this objective, the firm had to take up relatively large equity shares of a project with an accompanying large capital requirement. As a result, the dfi activities of this form represented a major share of its total investments and the concessionary financing provided by EXIM has reduced the marginal cost of capital of the firm to \( r \) resulting in an increase in investment to \( I^* \) in Figure 6.7.

Conversely, for the other twelve firms, investment had been undertaken principally to secure marketing rights in the case of the trading companies, and for the other firms, to secure supply (Table 3.1). The expected returns to these other firms accrue not only from a proportionate share of the net profits of the project, but also from the considerable sales commissions from marketing rights, and cost savings from lower prices resulting from increased supply. Resources dfi for these firms would therefore generally have higher expected rates of return than for the firm seeking to
relocate its production activities. Consequently, it is more likely for their resources to be intra-marginal and the need for subsidised financing to induce investment would be relatively significant.

It should also be noted that in all cases, each of the Japanese investing firms has only a minority interest, and in most cases, a small minority, especially in earlier years. One would expect that the majority foreign partners must also require a reasonable rate of return to undertake the investment. Therefore in those cases, where they do not receive similar benefits of subsidised financing (although they may be able to capture a share of the subsidy as will be explained in the next chapter) as their Japanese partners, one must conclude that the projects are intrinsically feasible, producing market rates of return.

Of course there could be differences in required returns between the Japanese investors and their foreign partners. In particular, the Japanese firm does not have management control generally, and therefore may perceive higher risks associated with the investment and require a higher rate of return. However the additional benefits in marketing rights and lower raw material prices should provide significant compensation - the smaller the investment, the greater will be the compensating effects. On the other hand, one would expect that the firm investing overseas to relocate production would not be able to enjoy these additional benefits to the same extent as the other twelve firms covered in the survey. In its case therefore, subsidised financing could have been necessary to make its investments in overseas projects acceptable.
It is however recognised that the interest subsidy provided through EXIM loans could have resulted in the Japanese firms undertaking a higher level of equity investment than they would otherwise. Unless the firm has a deliberate policy to minimise its equity investment in any project (as was the case for two of the thirteen firms interviewed), the additional profits generated by the subsidy could make these investments exceptionally profitable. This would be particularly relevant for firms that are looking to resources dfi as a means to diversify their activities in addition to securing marketing or purchasing rights.

It can therefore be concluded from the findings of the survey that in most cases, the reduction in financing costs provided by EXIM loans has not been critical in inducing Japanese firms to undertake dfi in resource projects. Only in one case, where the investment undertaken formed part of the main production activity of the firm and the capital requirements were major, that the financing subsidy of EXIM loans had been critical in the firm's dfi decisions. However, the subsidy provided by EXIM financing could have resulted in a higher level of investment by these firms as they seek to maximise the additional profits that are available from such investments.

This raises questions about the effectiveness of EXIM financing in promoting Japanese dfi in resources development. There is a role for EXIM loans in projects which are not economically feasible without concessionary financing but which have government support to achieve political objectives. The provision of low-cost EXIM loans to firms seeking to restructure its production activities through dfi in resources projects and which involve significant capital amounts, also appears to be justified. However
as shown in Chapter 3, the majority of resource investments by Japanese firms, which have been financed by EXIM loans are not in these categories. This therefore suggests that a significant proportion of the substantial subsidy that the government has provided through the EXIM Bank has not been used to induce Japanese dfi in resource projects, which would not have been undertaken without the subsidy. However, the rents obtainable from these EXIM loans could have resulted in an increase in the level of Japanese equity investment in resource projects which are intrinsically viable investments. This finding has major implications for the national interest and net social benefits arguments that have been put forward in support of the government's concessionary financing policy and which will be examined in the following chapter.
CHAPTER SEVEN

The Welfare Effects of Concessionary Financing

The concern of this chapter is to examine the effects of concessionary financing provided for Japanese dfi activities on the welfare of both the Japanese and host country economies. Government subsidies have always been justified on the basis that they produce net social benefits:

Whatever their purpose, they are presumably offered in the belief that the social return on subsidy-induced investment exceeds the return available to the capitalist before subsidy.

On the other hand, it has been contended that the opportunities for individuals to capture rents from the political allocation of subsidies, leads to rent-seeking behaviour which results in social waste. The issue therefore is whether the policy on concessionary financing has been dominated by national welfare considerations or private "rent-seeking" interests.

The welfare effects of the subsidy are complex and difficult to measure. Through diverting resources to selected uses and away from others, the prices of the products of these industries as well as their factors of production may be distorted, with resource allocation and income distribution effects. Another aspect of the welfare issue is the sharing of the subsidy provided between the Japanese investors and their foreign partners and other parties.

If dfi projects are purely competitive, then the Japanese firms

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2. Rents is defined as "payment to a cover of resources over and above that which these resources could command in any alternative use (Buchanan (1983), p.3).
undertaking investment will capture the entire subsidy provided by concessionary loans. At the other extreme the foreign partners and other interested parties may be able to increase the price for equity participation to completely off-set the subsidy. The real situation probably lies somewhere in between but, the extent to which the subsidy is captured by foreign interests represents a transfer of wealth from the Japanese economy and a welfare loss. Conversely, it represents a welfare gain to the host country economy. Finally, welfare losses also result from the rent seeking activities of Japanese firms and other parties, as resources are consumed in their bids to obtain the benefits of concessionary financing.

In the first section, the national interest arguments for providing concessionary financing in support of resources dfi and the conditions that are necessary to yield net social benefits will be discussed. This will be followed by a study of the rent-seeking behaviour of the Japanese firms and their foreign partners as they try to maximise the value of the subsidies provided by the Japanese government. In the process, the question of whether the major trading companies were instrumental in obtaining a policy which favours dfi in resources development will also be addressed. In the final section, the effects of this policy on prices and hence income redistribution and social welfare in both the Japanese and host country economies will be identified.

7.1 NATIONAL INTEREST ARGUMENTS

The provision of concessionary financing for resources dfi has been justified on the grounds that it is essential to ensure
economic security\(^4\) and as a tool for the implementation of national industrial policies.\(^5\) The national interest arguments that have been put forward in support of these concessionary loans are therefore closely related to the objectives of these policies, which have been published by the Ministry of Trade and Investment (MITI) as "Visions of MITI's Policies". The principal objectives of Japan's industrial policies for the 1970's were\(^6\)

- a shift to a knowledge-intensive industrial structure with special emphasis on its smaller burden on the environment and its potential to offer a meaningful life to the workers; and
- energy conservation and development of alternative energy sources

These policy objectives have been continued into the 1980's even though they have been rephrased in the "Vision" for the 1980's as:

- overcoming resource and energy constraints; and
- attaining co-existence of dynamism of society and the improved quality and comfort of life.

Following from these policy goals, the national interest arguments for subsidising resources dfi are that they yield public goods of security of supply, reduced energy consumption and less industrial pollution.

**Security of Supply**

It has been argued that dfi in resources development yields a social benefit of greater security of supply through reducing the proportion of resources imported through spot market channels.\(^7\)

Through equity participation in a project, the Japanese firms have

---

some influence on pricing and marketing decisions, and therefore, by diversifying supply from the spot market to dfi projects, there will be greater stability of prices and security of supply.

foreign investment in resources are intended to increase the total supply of commodities, which would in turn moderate price increases in the long run.

Energy Consumption

Being reliant on overseas sources for about 89 per cent of its energy requirements, a cut-off in supply or a sharp increase in prices could pose serious threats to the Japanese economy. Also this demand for imported resources has been a source of friction and animosity, especially with the major countries of supply. It has therefore been considered desirable to re-structure Japanese industries so that their consumption of imported energy resources is reduced. Dfi projects in resource processing (e.g. aluminium smelting) which transfer energy-intensive industries overseas, would yield the public goods of reduced energy requirements and reduced reliance on imported resources.

Industrial Pollution

By the early 1970's post war economic growth and the shift toward heavy and chemical industries had resulted in wide-spread destruction of the environment and a worsening of the quality of life. Environmental problems such as air and water pollution, traffic congestion and noise levels were so appalling in the major industrial centres that widespread citizens' movements sprang up to press for protection of the environment. Public sentiment was so

strong that it was almost impossible to build major plants that were expected to seriously affect the environment. Dfi projects to relocate resource-processing industries which had aggravated the problems of pollution and ecological decay would therefore generate a social benefit in an improved environment.

The subsidy of resources dfi can therefore be rationalised in terms of the provision of public goods. It has been argued that without concessionary financing a lower level of dfi will be undertaken and the supply of the social benefits discussed above will be sub-optimal as individual firms do not normally take into consideration or place any value on the social benefits accruing from an investment, because a) the benefit an individual receives depends upon how much of the good already exists in society and b) the more a good is produced for him, the more there is for everyone else. As a result of these characteristics, individuals would try to avoid contributing to the cost of supplying the public good but instead enjoy the benefits from the supply by others - that is, be a "free-rider". However if everyone adopts this attitude, there will be no supply at all. To offset this, the government subsidy is expected to induce dfi to a level such that there will be adequate supply of the public goods of increased security of supply, reduced energy consumption and less pollution. However, there is a question of whether the provision of subsidised financing is an appropriate and efficient measure.

It would not be unreasonable to expect the Japanese firms consuming resources in their production activities to be the most concerned about pursuing strategies aimed at security of supply and

reduced energy consumption, in comparison to the Japanese government and the general public. This is because these concerns impact directly on the operations and competitiveness of the firm and ultimately its survival. These considerations would therefore be taken into account fully in the firm's selection among various methods of acquiring resources and production, as part of its operating strategy, without requiring an inducement from the Japanese government to do so.

In other words, the private benefits of increased security of supply and reduced energy consumption through resources dfi would not differ from the social benefits, and government subsidies are therefore not necessary to ensure adequate provision of these goods. On the other hand, if the subsidy had served to induce dfi which would otherwise not have been undertaken, there would be additional social costs resulting from a misallocation of resources.

There is however the question of whether the equity share that is optimal to secure supplies for a private Japanese buyer could be less than the equity percentage that the Japanese government would consider to be optimal to foster long-term security of supply and good international relationships with the host government. If that is so, a government subsidy would then be required to induce the Japanese firm to increase its equity interest above its own preferred level.

Except, perhaps, in the case of "national projects", it is unlikely that such a situation is applicable, as the Japanese government is concerned only with general policy directions rather than the details of implementation, and therefore would not have specific preferences in terms of equity levels. Also, as mentioned
previously, the primary objective of promoting resources dfi is to increase total supply of commodities, which would in turn keep prices down. The minimum equity involvement necessary to ensure that a project would be proceeded with, would then be the optimal level from the government as well as the firm's point of view. The Japanese government also does not participate in negotiations with the foreign partners, except on an inter-governmental level in the case of "national projects". However as shown in Chapter Three, such projects accounted for a relatively small proportion of Japanese resources dfi.

As for the issue of industrial pollution a more economically efficient approach is to ensure that the "polluter" pays. If the offending industries are required to adopt measures to control their level of pollution, the resulting increase in costs of operation could make it more profitable for firms to relocate production overseas. Under these circumstances a government subsidy is not a necessary inducement for dfi.

The brief discussion above shows that there is very little support for the national interest arguments to justify the subsidisation of resources dfi. Instead, it is suggested that this policy can perhaps be better explained in terms of the rent-seeking behaviour of firms. As these firms strive to maximise value from the political allocation process, national interest arguments have been strongly pushed to support their case. The next section will examine the rent-seeking hypothesis and whether developments in the subsidisation of Japanese dfi activities provide evidence to support this hypothesis.

7.2 RENT-SEEKING BEHAVIOUR

In his "Theory of Economic Regulation", Stigler (1971) contended that as a rule, government regulation is acquired by industry and is designed and operated primarily for its benefit, as through the utilization of the coercive powers of the state, it is able to increase profits. Therefore, economic regulation mainly serves the interests of politically effective groups.

Such behaviour has been referred to as "rent seeking", and it has been suggested that it has emerged "as a significant social phenomenon as institutions have moved away from ordered markets toward the near chaos of political allocation". Behaviourally, rent seeking has become more important because institutional changes have opened up opportunities that did not exist in the nineteenth and early twentieth centuries. More significantly, it has been contended that rent-seeking generates social waste rather than social surplus. As individuals strive to maximise value, resources will be invested in efforts to obtain a transfer of income (or to resist a transfer away from themselves) through the political process and these resources represent net social waste.

The provision of concessionary loans by the Japanese government for dfi purposes represents an opportunity for Japanese firms to engage in rent seeking. Through these loans, the supply price of capital is kept below market levels whilst demand price is allowed to adjust to market levels, and hence rents emerge. The

22. Rent is defined as "payment to an owner of resources over and above that which these resources could demand in any alternative use" (Buchanan (1983) p.3).
rents that can be derived through these loans are equivalent to the subsidy provided as illustrated in Figure 2.4 on page 32. The existence of such rents generates activity whereby Japanese firms will try to maximise the transfer of income obtained from these loans and to do so, resources will be invested to influence the allocation of these rents. Further, as long as these rents exist, there will be continuous rent-seeking activity as "political reallocation does not reduce or eliminate the contrived scarcity of resources but at best replaces one set of rent seekers with another". 23

Developments in government policy on concessional financing suggests that "rent-seeking" could have been a predominant factor. Sekiguchi (1979) reported that

Around 1955 ... Japanese business began to request that EXIM also undertakes foreign investment finance. In consequence the law was amended in 1957 to enable EXIM to undertake foreign investment financing. At the same time its import financing was strengthened. 24

As predicted by Stigler, the initiative for such a policy came from industry - the potential main beneficiaries. Also, the expansion of the scope of EXIM import credits and overseas investment credits in November 1972 25 shortly after the final stage of liberalisation of foreign investment in June 1972, 26 could be explained in terms of rent-seeking behaviour. It would not be unreasonable to expect that as Japanese firms were able to expand their dfi activities with the lifting of government controls, they would lobby strongly

for expansion in concessionary financing to maximise returns from these activities.

In addition to developments in government policy, the differences in interest rate subsidy between dfi in resources development and electronics manufacturing also provide support for the "rent-seeking" hypothesis. The larger interest rate subsidy provided for resources dfi means that investors in dfi in resources development were able to secure a greater transfer of income from the political allocation process than investors in electronics dfi. This can be explained in terms of higher expected gains from collective action, and the "smaller numbers" of investors in resources dfi, as predicted by the "rent-seeking" hypothesis.

It is irrational for the recipients of government redistribution of income to invest more resources in lobbying than they will ultimately receive. Therefore, the greater the potential returns from their action the more intense would the efforts be to secure the transfer of income, and the greater would be the pay-off. The potential gain to the investing firms from the provision of concessionary financing for dfi is a function of the capital requirements, which is much greater for resources dfi than electronics manufacturing. The average value of investments in resources development by Japanese firms is US $12.3 million compared with an average value of $1.7 million for electronics manufacturing. It is apparent that firms undertaking resources development overseas have much more to gain from securing conce-

28. MITI (1983), Table 3 - Average of dfi from 1951-1982, on approval basis.
ssionary financing than their counterparts in the electronics industry.

The importance of political pressure to secure government financing for resources projects has been commented on by Ozawa in his discussion of the investment strategy of Japanese firms. The formation of an inter-keiretsu consortium is often a necessary step in putting political pressure on the Japanese government to help finance a large-scale venture overseas.\(^{29}\)

The development in recent years of the concept of "national projects" with the extended use of government financing can also be explained on the same basis. The capital requirements of these projects are exceptionally large and so are the rents that can be obtained from concessionary financing - hence a greater incentive for rent-seeking activity and better results.

Other than the potential gains related to the size of the capital requirements the level of rent-seeking activity is also affected by the size of the group that would benefit from joint action. As in the case of public goods, this is again the result of a "free rider" problem and can be simply illustrated as follows. Let the gain to an individual (firm) be equal to \(b\) if the collective activity is undertaken. The cost of collective action is \(C\) and the number of firms be \(n\). As joint action must be profitable for it to be undertaken, \(nb > C\). The free rider proposition is that the individual firm will refrain from joining the collective action if \(n\) is of some appreciable size, on the assumption that the viability of the action does not depend on its participation. If enough individuals take this position, the collective action will not be undertaken. On the other hand, if \(n\)

\(^{29}\) Ozawa (1979) p.187.
is small, the probability that each individual will join the group is increased because a) the probability of collective action depends more strongly on each firm's participation and b) the scale of operation of the collective action will be appreciably smaller if fewer individuals are included.\textsuperscript{30}

Olson (1965) first identified this "small number" condition for collective action, and labelled it the "special interest" theory of group action.\textsuperscript{31} However, Stigler (1974) has suggested that this small number condition has a wider scope than just the literal count of numbers. Even in an industry/group where the number of firms is large, if a small number of the firms account for a large share of the group's resources then these firms may view themselves as members of a small number industry. Also, where the divergence in interests between the large and small firms in an industry is sufficiently large, most of the larger firms would be induced to take collective action.\textsuperscript{32}

From the evidence presented in Chapter 3 it appears that this small number condition prevails among Japanese firms undertaking dfi in resources development but not in electronics manufacturing. Reiterating, dfi in resources development has predominantly been undertaken by the major trading companies and among the nine firms that are so classified, the two largest, Mitsubishi and Mitsui have been the most active. Although some user firms have also invested in joint-venture with these trading companies since the mid-seventies, the total number of firms involved is still relatively small, and the major share of

\textsuperscript{30} This "free rider" problem has been restated by Stigler as a "cheap rider" problem but the same conclusion is applicable.
\textsuperscript{31} Olson (1965) p.141.
resources dfi is concentrated among an even smaller number of trading companies. In contrast, dfi in electronics manufacturing has been dispersed among a large number of firms - at least several hundred, and for the major firms in the industry, their dfi still account for only a minor part of their total production.

Finally the difference in government policy towards dfi in resources development and electronics manufacturing could perhaps be explained in terms of the political influence of the major trading companies which has been discussed at length by Yoshihara (1982) in a recently published book33 about these companies. He stated that both Mitsubishi and Mitsui have had close ties with the government since the pre-War period and such relationships have always been regarded as part of their "business environment". The other major trading companies also set about establishing links with the government after the War, following the strategy of Mitsubishi and Mitsui, although some were more aggressive than others. Their concern with political influence resulted from the increasingly active role of the government in the Japanese economy and the pervasiveness of government regulation during the early post-War period. As a consequence, these companies have been labelled as seisho - meaning privileged merchants, through their influence on the government decision-making processes. However, among the trading companies Mitsui and Mitsubishi have wielded much greater political power than the others because of the personal networks they had developed since the early Meiji era and the support from their group members.34

Compared to the trading companies, the electronics companies are newcomers in Japanese business. Most of the major trading companies were established in the late nineteenth century and had become major business concerns by the late thirties. In fact, Mitsui and Mitsubishi were so large that not only did they dominate Japan's foreign trade but were seriously threatening the position of Western trading companies in the Asian countries as well.³⁵ The electronics industry in contrast, was only developed during the post-War period and has a relatively short history.³⁶ Even though it has been the fastest growing manufacturing industry - averaging 27.3 per cent per annum between 1955 and 1974³⁷ - the electronic firms are still relatively small compared to the trading companies. In a system where political patronage and the inter-dependence of big business and government is so well entrenched,³⁸ the political influence of any firm or industry must depend very much on its history and relative size.

However this is not to suggest that the electronics industry does not have any political influence nor engage in rent-seeking activities. The substantial investment that the Japanese government has put into research and development into the widely-publicised VLSI project was initiated by the electronics industry and to which the principal benefits have accrued. It is contended that compared to the trading companies, the electronic firms have less political influence and this could have contributed to less favourable financing made available to support their dfi activities. On the other hand, the more critical factor could have been the much lower

rents available to the electronic firms because of the much lower capital requirements for dfi in comparison to resources dfi. Consequently, rent-seeking activities of the electronics industry have been diverted to other potentially more profitable channels, namely research and development expenditure.

There is also the question of why the trading companies have chosen to seek rent in this particular form and not alternatives such as government assistance in monopsonistic cartel arrangements which could have put downward pressure on the prices paid for resource imports. The answer must be that it is perceived as the most effective channel to achieve the investing firms' objectives. The fail-safe way to keep prices depressed over the long-run is to ensure that world-wide supply exceeds demand, and this is achieved by ensuring that a sufficient number of resource projects are developed. Although monopsonistic cartel arrangements are also useful in price negotiations, they have to operate within bounds set by international market prices. The primary concern must therefore be to promote project development.

If development of a project is dependent on Japanese equity participation, rent-seeking in the form of concessionary financing would be the logical way for the Japanese investing firm to proceed. For the trading firms in particular, which have undertaken equity investment principally to secure marketing rights, the approach would be even more single-minded. These firms which are confronted with the need to undertake resource dfi, would focus on the various means of securing rents associated with dfi, such as concessionary financing and direct participation by the Japanese government, which are already well-established and politically acceptable forms of government assistance.
Japanese private cartel arrangements in price negotiations with Australian resource producers, especially for coal and iron ore, is an established practice, and government assistance has not been necessary to operate these arrangements. Theoretically, a single government import agency would maximise the gains from price negotiations for the Japanese buyers as a group, but there are also objections to such an arrangement [Smith(1977)]. In a discussion of export price bargaining\(^{39}\), Smith suggested that there may be a sufficiently large section of industry that is opposed to the operation of a public agency, and have the political influence to block the necessary legislation.

More significantly, the government agency may be so remote from the activities of its "members" that it is unable to make reasonable judgements of appropriate strategies. The necessary expertise in understanding the situation of individual traders, and in anticipating likely future market developments, is also unlikely to be found among bureaucrats and politicians. The success of any public agency then, is likely to depend on the nature of its staffing and on its degree of independence from outside political or bureaucratic control. An inadequately informed or ideologically motivated agency may approach trade bargaining in a manner which bears little relation to real bargaining limits, and thereby result in a long-term weakening of mutually advantageous trade relationships. One would expect that under such circumstances, Japanese industry would be most reluctant to relinquish control over pricing to a government agency.

\(^{39}\) Smith(1977) p.48
In summary, the evidence presented above suggests that the "rent-seeking" behaviour of the investing firms, especially the major trading companies could have been an important factor in the provision of concessional financing for dfi in resources development. Not only was such government policy initiated by these firms, but the difference in policy towards dfi in resource development and electronics manufacturing also fit in very well with the predictions of the rent-seeking hypothesis. The considerable political influence of the trading companies, especially of Mitsui and Mitsubishi which have also been the leading companies in resources dfi, could also have been a critical factor in the development of a policy to provide concessional financing for resources dfi.

The following scenario is suggested. Mitsubishi and Mitsui, being the largest trading companies with the major share of imports of resources were interested in dfi for purposes of securing the marketing rights to major resource projects. With the provision of concessional financing by the government for commercial activities - EXIM financing of exports and imports - already an established practice, rent-seeking results in these companies lobbying the government for an extension of such subsidies to dfi activities. To justify such a policy, national interest arguments of security of supply were put forward. Through their considerable political influence, concessional financing was extended to their dfi activities. Over the years, as other major companies - trading and 'user' firms - also undertake resources dfi, and as the focus of their activities change, for example from iron ore and coking coal in the 1960's to energy resources in the 1970's, the rent-seeking behaviour of this larger group of very politically influential
firms has ensured that government policy has been changed periodically to better suit their requirements. These have taken the forms of the allocation of top priority ranking and the largest subsidies for energy resources since the early 1970's, and the development of the concept of "national projects".

A notable example is the conversion of the Iranian petrochemical project, which was a private project developed by the Mitsui group of companies, to a "national project". As a result of substantial delays and cost over-runs in the project, substantial additional capital was required. The Mitsui group which had already invested about US$500 million were reluctant to inject further capital and requested the government to become a shareholder and provide most of the additional capital required. To what extent the government acceded to Mitsui's request is unclear but the project was converted to a national project with resulting benefits in access to low cost government funds and reduced political and financial risks for the Mitsui companies.

The designation of the Asahan aluminium project, which was organised by the Sumitomo group, as a national project was also the result of political pressure exerted by these firms on the government to provide financial assistance. At that time the Japanese aluminium industry in general was in dire straits because of the high cost of imported oil upon which the industry was primarily dependent. The Sumitomo companies which were badly hit and have since closed down two of their largest smelters in Japan, were very keen to relocate production overseas. As with Mitsui's petrochemical project in Iran, Sumitomo's Asahan aluminium project was

converted to a national project as a result of the pressure that was brought to bear on the Japanese government. The ensuing financial benefits to the Japanese firms have already been discussed in Chapter 4.

The electronics firms have undertaken dfi for very different reasons from, and independently of the trading companies, in much larger numbers, and with much lower capital requirements than resource projects. Also being relatively young and small in Japanese business with much less political clout than the trading companies, they have been much less successful in securing concessionary financing for their dfi activities. However, should circumstances change, there could be a re-distribution of rents to investors in electronics dfi. If the gains from subsidised financing should increase considerably as a result of increases in capital requirements; and if the "free rider" problem can be substantially overcome, electronics firms could find it profitable to engage in more active "rent-seeking" and lobby for greater subsidisation of their dfi activities. The expected continued growth of the electronics industry and the key role that it is expected to have in Japanese industrial policies for the 1980's would enhance its position in the Japanese economy and hence its political influence. This should, in consequence contribute to the profitability of "rent-seeking" activities for these firms.

7.3. PRICE AND INCOME EFFECTS

Concessionary financing of Japanese dfi affects prices and income in both the Japanese and host country economies and in this section these effects will be identified. It is beyond the scope of this thesis to estimate these effects but an assessment of the net welfare impact of this policy will be made.
Japanese Economy

Unless the subsidy on concessionary loans is totally captured by the foreign partners, or the rate of return required for dfi is equivalent to the opportunity rate plus subsidy, concessionary financing will result in projects that do not meet market rates to be undertaken. This misallocation of resources could affect the price that Japanese consumers will have to pay for their imported raw materials.

Although there is no specific data to substantiate any general statement about the structure of the market for resource projects, it is very unlikely for either the buyers - Japanese investors, or the sellers - foreign partners to be able to dictate terms. On both sides, there is a limited number of potential participants\(^\text{41}\) - therefore both groups of participants would have some bargaining power and there would most likely be a sharing of the subsidy provided by the Japanese government. If this is the case, it would be doubtful that the Japanese government could have failed to recognise that a significant fraction of the subsidy is accruing to the foreign partners. This then raises the question of why it has not provided other forms of concessions to the Japanese firms would have avoided such transfers of income. The principal reason is that the Japanese government has a passive role in such matters, responding to initiatives from the Japanese firms undertaking resources dfi rather than actively seeking to provide concessions. As mentioned above, concessionary financing for foreign investment was first provided in 1957 by EXIM in response to requests from business interests.

\(^{41}\) The small number of Japanese firms undertaking resources dfi was discussed in Chapter 3. Also a handful of international firms have control of the raw materials industries and have created formidable barriers of entry - Yoshino (1976) p.33.
The preference for concessionary financing by Japanese business is quite logical as the use of concessionary loans to stimulate domestic investment in specific industries and to promote exports was already well established and politically accepted as an instrument in Japanese economic management. It was therefore more efficient for the Japanese trading companies to seek concessions through the expansion of the scope of operations of an established instrumentality such as EXIM, than developing new alternatives. For the Japanese government it would be relatively easy to justify to the electorate and is therefore, politically desirable.

The distribution of the subsidy would resemble a bilateral monopoly where, as illustrated in Figure 7.1, a sharing of bargaining power would result in a sharing of profits. Lying above, the demand curve is the buyers all-or-nothing demand curve, showing the maximum price they are willing to pay for any given quantity. Lying below, the supply curve is the sellers' all-or-nothing price, showing the minimum price per unit at which they are willing to sell each quantity. If there are no transaction costs, the parties will arrive at a situation that is Pareto-optimal for them, where one cannot gain by any further negotiation without the other losing. The two parties maximise their joint profit $B(x) - C(x)$ by agreeing that $x^*$ should be the quantity exchanged. However the price could vary widely depending on the relative bargaining power of the two parties.

The highest possible price is that where the buyers are no better off as a result of the contract than without it. Their net benefits are zero:

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42. Layard & Walters (1978) p.244.
\[ B(x^*) - p^\text{max} x^* = 0 \]

so \[ p^\text{max} = \frac{B(x^*)}{(x^*)} \]

The lowest possible price is that where the sellers are no better off from the contract than without it.

\[ p^\text{min} x^* - C(x^*) = 0 \]

\[ p^\text{min} = \frac{C(x^*)}{(x^*)} \]

All prices between \( p^\text{max} \) and \( p^\text{min} \) are possible outcomes, and any price between \( p^\text{max} \) and \( p^\text{min} \) would result in a sharing of profits between the two parties.

As the Japanese investing firms are able to capture part of the subsidy, relatively high cost dfi projects may be preferred to lower-cost alternatives of procuring resources - such as spot-

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Figure 7.1

Bilateral Monopoly

\[ \begin{align*}
\text{All-or-nothing S} \\
\text{All-or-nothing D} \\
\end{align*} \]
purchases or long-term contracts, and in the case of resource-processing, local production. The relatively high-cost coal projects in Canada that the Japanese firms have invested in during the 1980's appears to be evidence of this consequence. The added-value provided by the subsidy could make these projects more attractive to the investing firm than more economic alternatives. Although it depends to some extent on the pricing arrangements with the Japanese buyers for the production of these projects, such investment would result in higher prices for imported resources, for the Japanese consumers.

Even if prices are related to market prices, downward price adjustments would be limited because of the conflict of interest among the Japanese firms as buyers and project owners. Also, the commitment to such high-cost projects would restrict a change to other cheaper sources of supply. Therefore the greater the Japanese equity share in a project the less downward flexibility there will be in import prices for the Japanese consumer. These higher prices for raw materials would also be passed on to the Japanese consumer in the form of higher prices for finished goods. On the other hand, should market prices increase, it would be unlikely that these price increases would be moderated to the same extent. Even if the Japanese owners have reasons for desiring such actions, the majority owners of the project are the foreign partners and would not be so inclined to reduce their profits. These additional profits would then accrue to the Japanese investors but would not benefit the Japanese consumer in the form of lower prices.

It has been shown that the subsidy provided by the Japanese government could have welfare costs to the Japanese consumers in
higher prices for both their raw materials and finished products. However, if the Japanese investing firms were to exclude the subsidy benefits in calculating the expected returns from a dfi project and in comparing it with other non-subsidised alternatives, this additional welfare cost would not accrue. As discussed in Chapter 4, most of the firms that had undertaken resources dfi, had claimed to have used this approach. The principal welfare costs would then only be the transfer of wealth equal to the subsidy from the ordinary Japanese taxpayer to the large Japanese firms and their foreign partners.

In resource-processing projects e.g. aluminium smelting, concessionary financing could also have welfare costs in terms of the shortened economic life of fixed assets and labour skills. If the critical factor in the decision to re-locate production overseas were the rents accruing from the concessionary loans provided and the cost advantage of dfi over local production is less than these rents, then the economically less efficient alternative would have been selected. Under these circumstances, the fixed assets and labour skills that should have continued to be employed in productive use would be largely wasted. Added to these are the costs of social disruption and re-training and re-deployment of personnel.

Finally the channelling of funds into "uneconomic" dfi projects increases the demand for funds in the Japanese capital market, which could result in an increase in interest rate, especially for the borrowers at the margin. The discrimination against the smaller borrowers by the Japanese banking system (as mentioned in Chapter 4) and who generally have to pay substantially higher interest rates would be expected to bear the brunt of any such developments.
In conclusion, the provision of concessionary financing could have resulted in inefficient allocation of resources and welfare losses to the Japanese economy through higher prices. The welfare costs in the transfer of wealth to foreigners through the subsidy and consumption of resources in rent-seeking activities by the Japanese firms, are however more firmly established. The principal beneficiaries of this policy, therefore, appear to be the Japanese firms and their foreign partners, with the ordinary Japanese taxpayers and consumers paying for it through the subsidy and in the form of higher prices and interest rates.

**Effects on Host Country Economy**

The Japanese government's concessionary financing of resources dfi projects transfers wealth from the Japanese economy to the host country economy in two ways:

1. the share of the subsidy provided to the Japanese firms undertaking dfi that is captured by the local partners - usually through a higher premium for equity participation; and

2. the subsidy provided to the local partners, usually host governments directly in the form of low-interest loans.

The first category is effectively a transfer of income from the Japanese tax-payers to foreign firms whereas the second type of transfer may be more socially desirable. If the low-interest loans provided to the host country government or other local partners were used for the development of infrastructure in a relatively poor country, and which would otherwise have to be paid for by the local government, it would be a redistribution of wealth to poorer tax-payers. There is however no welfare merit in such loans for infrastructure development in developed countries.
In both cases, the rents that the local partners can secure under this policy could result in the development of projects which would not otherwise meet market rates of return and hence result in a misallocation of resources. Also, the greater the rents that are obtainable from a project, the more likely it will be for an uneconomic project to be undertaken. The significance of this is that the so-called national projects involving billions of dollars in investment and which are much more heavily subsidised than other dfi projects would therefore tend to be the most uneconomic projects undertaken. The social benefits arguments for subsidising such uneconomic projects have already been discussed in the first section.

The development of uneconomic projects could, as in the Japanese economy, result in higher prices for the domestic consumers unless the total production of these projects are exported or the host government allows free market prices - for example, Japanese dfi projects in coal in Australia. In the case of a national project such as the Asahan Aluminium Project, in which the host government has a 25 per cent equity interest and has to service almost 50 per cent of the capital cost of the project; and where between one-quarter and one-third of its output is planned for domestic consumption, it is unlikely that the host government would not take the regulatory measures necessary to ensure that the price paid by local consumers is directly related to the costs of production. This project was expected to be the most competitive aluminium operation in Asia because of the availability of hydro-

electric power, but there is no data on actual production costs to confirm this.

The concessionary financing provided by the Japanese government may also have a significant impact on the prices of factors of production. If the dfi projects are a major user of scarce resources in the host country, they would lead to higher prices for these resources. Some of these effects would be socially desirable - for example, where a major project is undertaken in an economically depressed or undeveloped region, the standard of living would be improved with increased employment and higher wages. But, if the effect of these projects is to aggravate an already tight labour situation, they could seriously distort overall wage levels and affect the international competitiveness of the country's industries. Especially in developing countries, where capital is very scarce, the capital resources invested in these projects by the local partners could have serious crowding out effects of the marginal borrower in local capital markets, unless these funds were raised overseas.

The host country economy obtains welfare gains from the Japanese government's concessionary financing of resources dfi projects through capturing a share of the subsidy provided to the Japanese investors as well as the direct subsidy provided to the local partners. However these subsidies could lead to inefficient allocation of resources with the associated welfare costs of higher prices for local consumers, and inflationary pressures on wages and on interest charges for the marginal borrowers. On the other hand, projects that were made feasible through the financing subsidies,

could have welfare gains in facilitating economic development and raising the standard of living in depressed or remote regions.

7.4 CONCLUSION

Although national interest arguments have been used by both the Japanese government and investing firms to justify the provision of concessional financing for resources dfi, it has been shown that they are not valid. The social benefits of security of supply and reduced energy consumption are also primary concerns of the firms undertaking dfi and therefore necessary measures would be taken to ensure adequate provision of these benefits without government intervention. The issue of industrial pollution should also be dealt with by the more economically efficient approach of making the polluter pay.

Instead of the public interest theory, developments in the subsidisation of Japanese dfi activities suggest that perhaps the rent-seeking hypothesis provides a better explanation. As predicted by the rent-seeking hypothesis the policy was initiated by the firms that were the main beneficiaries and which have the political influence to affect government decision-making and redistribution of income. The conversion of the Iranian petrochemical project and the Asahan aluminium project from private projects of the Mitsui and Sumitomo groups respectively to "national project" status as a result of political pressure provide further evidence to support this hypothesis. The difference in policy towards dfi in resources development and electronics manufacturing also fits in with the predictions of the hypothesis. Dfi in resources development has been dominated by a small group of major firms - particularly the major trading
companies, whereas dfi in electronics manufacturing has been dispersed among a large number of companies. The "small number" condition required for collective action is therefore fulfilled in the case of resources dfi, and this has resulted in a larger subsidy and greater share of rents for firms investing in resources development than in electronics manufacturing.

In addition to the conclusions that the subsidy provided by the Japanese government does not generate significant net social benefits but instead provide rents for the Japanese firms, there are also other welfare effects. In terms of the Japanese economy there are welfare costs in the transfer of wealth to foreigners through the subsidy and consumption of resources in rent-seeking activities by Japanese firms. There may also be welfare losses resulting from inefficient allocation of resources and higher prices for both the Japanese and host country economies. However the host country obtains welfare gains through securing a share of the subsidy provided to the Japanese investors as well as through the direct subsidy provided to the local partners. The principal beneficiares of this policy, therefore appear to be the Japanese firms and their foreign partners, at the expense of the Japanese taxpayers who are financing the subsidy and both the Japanese and host country consumers who may have to pay higher prices and interest rates.
CHAPTER EIGHT
Summary and Conclusions

As the expansion of direct foreign investment by United States corporations during the fifties and sixties was studied with much interest, the rapid growth of Japanese dfi since the late sixties has similarly attracted considerable attention. In a study about Japan's emerging multinationalism, Ozawa contended that the financial support provided by the Japanese government and the closely-controlled financial sector, has been a key factor underlying the rapid growth of Japanese dfi activities since the late sixties.

He argued that overseas production has become an integral part of Japan's economic growth strategy but the majority of Japanese firms are incapable of undertaking direct foreign investment on their own. By Western standards they are "immature" in size, technological sophistication, and financial strength. As a result a multitude of supportive functions, both financial and managerial are being mobilised or newly arranged by both government and industry to defray part of the private costs and to realise the social benefits of overseas production.

Ozawa relied on an extension of the "Japan Inc" concept of the Japanese economy to explain the relationship between the rapid rate of growth of Japanese dfi and the employment of government financing in such activities. This hypothesis implies central government leadership of a highly co-operative big business sector so as to constitute a homogenous, unified, undifferentiated force that purposefully, vigorously and effectively pursues the national interest, and which Ozawa referred to as the operation of a "macro-technostructure". Although the "Japan Inc" hypothesis has been
subjected to considerable criticism as being too simplistic, it
nevertheless highlights the close and co-operative relationship
that big business has had with a very supportive government, and
which has been credited with the rapid growth and success of the
Japanese economy.

This co-operative relationship between the Japanese government
and big business has been attributed to a consensus on economic
goals and the means of attaining them, and common ideology and
values. From soon after the War until about 1970, there was a
common objective of rapid economic growth through the expansion of
the capacity, capabilities and output of private business,
especially big business. The government's main role was to be of
help to private growth wherever possible.

The significance of Ozawa's proposition lies in its support of
this concept of the government's role. Financing provided directly
by the government to private business, and indirectly through its
control of the banks, and which has been credited with facilitating
a high rate of domestic investment and growth, has been applied to
a similar purpose and end in dfi activities since the late
sixties.

This thesis sought to verify this proposition about the role
of the Japanese government in financing Japanese dfi and to
evaluate the costs and benefits of the financial support provided.
The study focused on the investment and financing activities of
representative samples of firms undertaking dfi in two industries -
resources and electronics manufacturing - to provide a comparative
analysis. As the Japanese banks have traditionally played an
important role in the implementation of government policies, and
are the principal source of funds for the investment activities of
the Japanese corporate sector, their role in financing Japanese dfi activities has also been examined.

As there is very little published information available concerning the activities of firms a survey was conducted for the purposes of the thesis. The focus of the survey was on dfi in resources development where the financial support provided by the Japanese government has been most significant. To provide a comparison of the extent and impact of government financing in resources development, dfi in electronics manufacturing was included. Altogether thirteen firms that had undertaken dfi in resources development and nine firms with dfi in electronics manufacturing were covered in the survey. In addition to the senior executives of these firms, senior officers of financial institutions - both private and government-owned - that had provided financing, and relevant government departments as well as other researchers who had an interest in the subject, were also interviewed. The conclusions drawn in this thesis are principally based on information obtained during the course of these interviews.

In general, the findings of the survey do not support the proposition that financing was a key factor underlying the rapid growth of Japanese dfi activities. To provide theoretical support for his proposition, Ozawa developed an analytical framework which emphasises a comparative advantage in factors-endowment as the motivational force; and the existence of what he calls a "macro-technostructure" to facilitate dfi - the financial support provided by the Japanese government being a key element of this macro-technostructure. There is however, little evidence to show that the investment by Japanese firms in resources development as well as
electronics manufacturing overseas was significantly influenced by the operation of a macro-technostructure.

The trading companies which are technostructures in their own right have been the traditional and most important investors in resources development and the principal motive has been to secure captive sources of supply as a means to expand their trading activities. Likewise the major user companies that ventured into resources dfi during the mid-seventies to secure sources of supply are also technostructures which are fully capable of undertaking dfi on their own accord. There has also been no indication that their decisions to undertake dfi were influenced by external parties including the Japanese government.

Instead Japanese resource dfi has been characterised by each participating firm acquiring a relatively minor equity interest in a project, without management control. These investments have principally been undertaken as contractual arrangements, whereby the Japanese investors could secure marketing or purchasing rights to a project's output in consideration of a small equity investment. The correspondingly small capital requirements and absence of a management role would strongly suggest that the operation of a macro-technostructure would not be required to facilitate such investments.

The joint investment by trading companies and user companies, with the former providing the organisational expertise probably represents the macro-technostructure that Ozawa has in mind. However there is a question of whether this apparent macro-technostructure is merely the result of, rather than a factor in the investment decisions of these firms. It is contended that the
organisation of Japanese firms into business groups and the close relationships among its group members have made joint investment a desirable arrangement. The common objective of reducing investment risks through greater diversification among projects and the considerable political pressure that inter-keiretsu group investment can exert on the Japanese government, has likewise resulted in such an investment strategy. The trading companies with their far greater experience in dfi are the natural leaders of these groups.

In dfi in electronics manufacturing, even the apparent operation of a macro-technostructure is not present. Dfi has been undertaken by individual firms mainly as wholly-owned subsidiaries, in response to the particular needs of the investing firm. There has been no involvement of the trading companies or the Japanese government in their dfi activities. Instead, the behaviour of Japanese firms investing in electronics manufacturing lends support to Giddy & Young's proposition that the Hymer-Kindleberger-Caves monopolistic theory of dfi is quite appropriate to explain Japanese dfi activities. All these firms, large and small, owned some firm-specific advantage, principally technical know-how, which gave them an edge over local firms, as well as their Japanese competitors.

To explain dfi undertaken by firms that are relatively "small and immature", Giddy & Young contended that firms pursuing imitative and dependent strategies do not have to be large or research-intensive to undertake dfi successfully. This is because their domestic advantages are transferable abroad within the firm at little additional cost. Also as they are largely inseparable from the firm, exploitation of these advantages tends to be internalised through dfi rather than sold in the open market.
In addition to the investment behaviour of the Japanese firms, the sources of funds employed by these firms to finance their dfi activities provide further evidence to refute the proposition that the financial assistance provided by the Japanese government was a key factor in a firm's decision to undertake dfi. Japanese firms have, without exception, relied heavily on government financing and loans from the Japanese commercial banks (which have been provided under the co-financing arrangement between EXIM and the commercial banks) to finance their dfi in resources development. In contrast government financing has been relatively insignificant in dfi in electronics manufacturing, the main reason being the considerably lower cost subsidy provided for them in comparison with resources dfi.

It is estimated that the cost of EXIM funds for dfi in energy resource projects is at least 25 per cent lower than loans from the Japanese banks. For dfi in other resources the difference is 6 per cent but for manufacturing dfi, the average cost of EXIM loans is greater than the city banks prime lending rate. It is therefore apparent that the significance of government financing in Japanese dfi activities was primarily due to the cost subsidy provided rather than as a supplementary source of funds for Japanese firms with insufficient financial strength to invest overseas.

Government financing has been viewed as being merely another source of funds that is available to the Japanese investing firms, and against which other alternatives are compared in selecting a financing plan for an investment. For resources dfi, the terms of these EXIM co-financing loans have been superior to other alternatives and so have been a very significant source of funds for these projects. In recent years though, with the dramatic increase
in the size of dfi projects, the cost benefits of these packages have been traded-off to some extent against their adverse effects on balance sheet presentation and their associated foreign exchange and financial risks. As a result Japanese firms have not maximised the use of these funds in some projects but instead diversified to other sources such as project financing. In dfi in electronics manufacturing, on the other hand, other alternative sources of financing have been consistently preferred and only in isolated cases was EXIM co-financing considered to offer more benefits.

Although these findings show conclusively that the rapid growth in dfi in electronics manufacturing was not associated in any way with the provision of government concessionary financing, the issue of whether the availability of low-cost government funds had resulted in a higher level of dfi in resources development, has to be considered. This question was raised during the survey and out of the thirteen firms included in the survey, twelve firms responded that the absence of these loans would not have made any difference to their investment decisions, and that all the dfi projects undertaken would have met the investment criteria set by the firms even if funds had to be raised at market interest rates. Only one firm stated that without government financing some of the projects that it had invested in would not have otherwise met the firm's feasibility criteria and therefore its level of dfi would have been reduced. Even taking into consideration possible shortcomings in the methodology used, the survey strongly suggests that the provision of subsidised government funds has not been critical in inducing Japanese dfi in resources development, in most cases.
It is however recognised that the interest subsidy provided through EXIM loans could have resulted in the Japanese firms undertaking a higher level of equity investment than they would have otherwise. Except for two of the firms included in the survey, which had a deliberate policy of minimising equity investment in a project, the additional profits - rents - generated by the interest subsidy could make these investments exceptionally profitable. It is however, not possible, from the findings of the survey, to draw any conclusion about its significance in contributing towards the rapid increase of Japanese resource dfi.

The subsidy provided to Japanese firms through the EXIM co-financing arrangements for resources development is estimated to be US $986.5 million for the three-year period from 1979 to 1981, which is equivalent to about one-third of the estimated total subsidy provided by the EXIM Bank of the US during that period. The provision of this subsidy has been justified by both the Japanese government and the firms receiving the subsidy on the grounds that it produces net social benefits in increased security of supply, reduced energy consumption and industrial pollution through promoting dfi activities. However it has been established that in most cases resource dfi, appears to have been intra-marginal and the availability of this subsidy was not critical in inducing investment, with the subsidy accruing to the investors as rent. Only in the case of one firm did the provision of the subsidy appear to have achieved the policy objective of "promoting" dfi.

It is therefore suggested that the subsidisation of Japanese resources dfi may be better explained in terms of the rent-seeking behaviour of the Japanese firms undertaking investment. As
predicted by this hypothesis the policy was initiated by the firms that were the main beneficiaries and which also have the political influence to affect government decision-making and redistribution of income.

The much lower level of subsidisation for the electronics industry also fits in well with the predictions of the rent-seeking hypothesis. Dfi in resources development has been dominated by a small group of major companies, particularly the trading companies, whereas dfi in electronics manufacturing has been dispersed among a large number of firms. The "small number" condition required for collective action is therefore fulfilled in the case of resources dfi but not in electronics dfi, resulting in a larger subsidy and greater share of rents for firms investing in resources development. The much lower capital requirements in electronics dfi as compared to resource dfi, and therefore much lower potential rents, could have also resulted in the electronics industry diverting their rent-seeking activities to other potentially more profitable channels, namely research and development expenditure.

However, should circumstances change, there could be a redistribution of rents to investors in electronics dfi. If the gains from subsidised financing should increase considerably as a result of increases in capital requirements; and if the "free-rider" problem can be substantially overcome, electronics firms could find it profitable to engage in more active rent-seeking to obtain greater subsidisation of their dfi activities. The expected continued growth of the electronics industry and the key role that it is expected to have in Japanese industrial policies for the 1980's is expected to enhance its position in the Japanese economy and hence its political influence.
In addition to the conclusion that the subsidy provided by the Japanese government does not generate significant net social benefits but instead provides rents for the Japanese firms, there are also other welfare effects resulting from this policy. In terms of the Japanese economy there are welfare costs in the transfer of wealth to foreigners through the subsidy and consumption of resources in rent-seeking activities by the Japanese firms. There may also be welfare losses resulting from inefficient allocation of resources and higher prices for both the Japanese and host country economies. However the host country derives welfare gains from a share of the subsidy provided to the Japanese investors as well as any direct subsidy that may be provided to the local partners. It therefore appears that the principal beneficiaries of this policy have been the Japanese firms and their foreign partners in dfi, at the expense of the Japanese tax-payers who are financing the subsidy and both the Japanese and host country consumers who may have to pay higher prices and interest rates.

The Japanese banks have also been an important source of funds for Japanese dfi activities. However this was primarily due to the very close relationships that Japanese banks have with the major firms and the Japanese government, resulting from their traditional role in financing the corporate sector. The provision of funds for the overseas operations of a firm by its banks is merely another facet of a long term lender-borrower relationship which both the firm and the banks are keen to foster and maintain. The importance of the relationship between a firm and its bank in the financing of a firm's dfi activities is clearly shown in the administration of the EXIM co-financing arrangements. The opportunity for any bank
to participate in a co-financing loan and the level of participation are a function of its relationship with the investing firms. On the other hand, the principal bank of a firm, which usually accounts for the largest share of a firm's bank loans, is a major shareholder, and is also directly involved in the investment and financial planning of a firm, has a very influential role.

As the "lead bank" among the co-financing banks, it participates directly in all stages of the decision-making for a dfi project — feasibility study, financial planning and selection of co-financing banks — as well as providing part of the funds required. In the process, the principal bank performs the various roles of adviser, negotiator and organiser for the investing firms and to a certain extent, for EXIM as well. The close co-operation between the lead bank and EXIM in arranging these co-financing loans is also an extension of the underlying relationship between the Japanese government and the banking system.

The 1970s also saw a rapid expansion of the international activities of the Japanese banks in parallel with the growth of Japanese dfi. As with other nations, the banks had initially ventured overseas to service their clients, but had rapidly expanded their business interests to non-Japanese corporations and financial institutions and foreign governments. The Japanese banks have become a major force in the international capital markets and with the expertise and experience that they have acquired in international financing, are able to offer a much wider range of services to their Japanese corporate clients to finance their dfi activities. This is evidenced by the rapid growth of Eurobond financing since the mid-seventies and more recently, the use of project financing for resources dfi.
It is expected that with the increasing sophistication of the Japanese banks in international financing, and of the Japanese firms in multi-national operations, there will be greater diversification of sources of funds employed in their dfi activities. In particular, there has been a noticable change in preference from indirect financing - bank loans - to direct financing such as bonds or equity issues, by Japanese firms. However the close relationships between the Japanese firms and their banks will remain basically unchanged. Although the Japanese bank may become less important as a lender to a firm, it will still have a key role in its financing operations, in arranging and raising alternate sources of funds such as underwriting bonds or syndicated loans.
A. FIELDWORK PROGRAM

It was expected that most information for the thesis would be obtained from interviews with personnel at head offices in Tokyo, as the investment and financing decisions would be made at that level, and also where the interplay of government policies and business objectives could be most well observed. However, a preliminary survey in Australia of personnel at the subsidiary or branch office to get some knowledge of the subject, was considered to be desirable. This would facilitate better preparation for field work in Japan as well as minimise the period of stay there for cost reasons. There is little Japanese dfi in electronics manufacturing in Australia and a decision was made to restrict the preliminary survey to firms with dfi in mineral resource development.

At the same time it was felt that interviews with some major US resource companies operating in Australia and also with major Australian resource companies that have joint-ventures with either Japanese or US firms would be useful. These interviews would allow for a comparison of Japanese investment and financial policies and methods with these companies and more importantly, an appreciation of how Japanese dfi has been viewed by these firms which are the leading resources companies in the country.

In December 1981, a pilot survey was performed with a US firm, and a Japanese firm and in February 1982, interviews were held with senior officers of another nine Japanese, five US and four Australian firms. All these interviews were set up through formal
letters requesting assistance and cooperation for a research project and promising complete confidentiality of information and a copy of the research results on completion of the project.

The main survey in Japan was conducted over a five-month period from May to September 1982. The original schedule was for only four months, but because of difficulties in setting up interviews during the summer holiday period (August), the survey had to be extended to September.

At the outset the strategy adopted was to concentrate on dfi in resources development as there might not be sufficient time to adequately cover electronics manufacturing as well. Therefore, interviews with electronics companies were conducted only after most of the interviews with firms investing in resources development were completed. As a result of this strategy, the survey covered all the major Japanese companies that have resource investments but only nine electronic companies that have manufacturing investments overseas.

However, the sample is quite representative and covers the whole range of firms. Four of the firms surveyed are among the industry leaders in final products, two of which are producers of consumer goods (referred to as "set manufacturers"), one produces mainly industrial goods and the other is one of the three companies in Japan which produces a full range from simple consumer items to complex industrial equipment. The other five firms covered in the survey are component manufacturers, three of which are among the leading firms in Japan and the other two are relatively small. In addition, information concerning the electronics industry has been augmented through interviews with officers from financial institutions and government departments as well as other
researchers who have some interest in the subject. Therefore in spite of the small size of the sample, some firm conclusions can be validly drawn from this study, especially in comparison with dfi in resources development.

In addition to the investing firms, much time was spent with officers from the financial institutions that have provided the funds for investment. Due to the dominance of two of these banks in financing for dfi, especially in resources development, attention was concentrated on them with a number of interviews held with various officers in these organisations. Interviews were also held with two other city banks and one foreign bank.

To obtain information on the influence and interaction of government policy, interviews were conducted with officers from various government bodies which included the Ministry of Finance, Overseas Economic Co-operative Fund, New Energy Development Organisation and Japan External Trade Organisation. Meetings were also held with researchers and journalists from a number of organisations to get other points of view and to determine if any relevant work has been done which could be useful for this study.

Unlike the interviews in Australia, most of the interviews in Japan were arranged through personal introductions from various contacts in Japan, and through some of the Japanese executives that were interviewed in Australia. Most of the interviewees were most co-operative and pleasant, but in some cases it took several meetings before the right person in an organisation was identified. The most critical factor in obtaining a fruitful interview in Japan was lining up the right introduction.

For the interviews with investing firms and financial institutions, a list of rather open-ended questions was used. The
intent was to try and generate discussion along certain themes so that a more complete picture of the organisation's policies and activities could be obtained. In a number of cases more than one interview was held with the same person. The list of questions used and the organisations contacted during the survey are detailed in the following.

B. LIST OF QUESTIONS

1. What is the company's policy on direct foreign investment in resources development/electronics manufacturing?

2. What are the company's direct foreign investment interests in these industries?

3. What are the main sources of funds that have been used in financing their dfi and what were the main underlying factors?

4. What are the company's policies with respect to use of government funds and equity participation?

5. Has the Japanese government been actively involved in a company's direct foreign investment activities in any capacity other than providing concessionary loans?

6. Would the dfi activities of the firm have been affected if Japanese government funding were not available?

7. Is the provision of low-interest funds by the Japanese government through various government bodies (Export Import Bank, OECF) perceived as an important and effective means of stimulating direct foreign investment by Japanese companies?

8. Have the trading companies played an important role in financing and organising the firm's direct foreign investment activities?

9. Have loans from Japanese banks been an important source of funds for the company's overseas investments? To what extent and why?

10. How are loans from the Japanese government/banks normally channelled to its dfi project.

11. How has the internationalisation of the firm's activities affected in relationship with its Japanese banks and vice versa?
Mitsubishi Corporation

Assistant General Manager, Iron & Steel Department
Mr. M. Sonoda

Division
Mr. Taro Muto

Executive Officer
Mr. Shinya Kodama

President and Managing Director
Mr. Kenzo Mekata

Mitsui Iron Ore Development Pty. Ltd.

Mitsui-C. Itoh Iron Pty. Ltd.

Information Division, Information & Research Department
Mr. Shuichiroka

Information Processing & Electronic Systems Division
Second Information Processing Systems Department
General Manager
Mr. T. Imai

Finance Division
Deputy Manager, International Finance Department
Mr. Katsuya Uemura

Finance Division
International Finance Department
Mr. Seiji Sano

Mitsui & Co., Ltd.

Mitsubishi Corporation

Japanese Companies Involved in Resources Development Overseas

C. Organisations Connected
12. Mr. H. Matsuura  
Project Manager, Project Sec. - II, International Finance Department

C. ITOH & CO., LTD.

13. Mr. Shinobu Inoue  
Senior Section Officer, International Investment Finance Team

14. Mr. Koji Fukuda  
Asia & Oceania Team, Overseas Department

15. Mr. K. (Kaz) Machida  
Assistant Manager, Inorganic Chemical Materials Section No.1 
Inorganic Chemical Department

NISSHIO IWAI CORPORATION

16. Mr. Iwao Okamoto  
General Manager, Coal Project Office

17. Mr. Takanosuke Suzuki  
Coal Project Office

18. Mr. Hideo Komuro  
Coal Project Office

19. Mr. Eiji Ohkawa  
Overseas Investment Sect., International Finance Department

20. Mr. Toshio Oda  
General Manager, Coal Liquefaction Project Office

21. Mr. Ichizo Takahashi  
Deputy General Manager, Coal Liquefaction Project Office

NICHIMEN CORPORATION

22. Mr. C. Akama  
Deputy Manager, Export Section, Finance Department

23. Mr. T. Imada  
Deputy Manager (Section), Coal Section No.1, Coal Department

NIPPON STEEL CORPORATION

24. Mr. Saburo Tanabe  
Executive Adviser

25. Mr. Ciro Arai  
Deputy General Manager, Corporate Planning - International
26. Mr. Naotsugu Wakamura  
Deputy General Manager, Iron Ore Department  

KOBE STEEL LTD. (KOBELCO)  
27. Mr. H. Yokote  
Manager, Research Department  
28. Mr. Toshihiko Yoshida  
Assistant Manager, Foreign Funds Section, Finance Department  

SUMITOMO ALUMINIUM SMELTING CO., LTD.  
29. Mr. Keiji Nagayasu  
Planning & Development  
30. Mr. Susumu Ishida  
Planning & Development  

YOSHIDA KOGYO K.K.  
31. Mr. H. Hirata  
Managing Director  

ELECTRIC POWER DEVELOPMENT COMPANY (E.P.D.C.)  
32. Mr. Akira Kinoshita  
Senior Economist, Department of General Planning  

JAPAN COAL DEVELOPMENT CO. LTD.  
33. Mr. Schunichi Hiraki  
Manager-Project Finance, Business Development Department No.1  

II Japanese Companies Investing in Electronics Manufacturing Overseas  

MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.  
34. Mr. Takashi Fujii  
Coordinator  
Corporate Overseas Management, Foreign Relations Department  
35. Mr. Masahiko Kuninaga  
General Manager, Administration Department  
Corporate Overseas Management Office  
36. Mr. Nobuaki Mishima  
Assistant Councilor, Corporate Finance Department  

HITACHI LTD.  
37. Mr. Yasutaka Hiroi  
Manager, International Finance Center
SONY CORPORATION
38. Mr. Eijyu Miyauchi
   Deputy General Manager, Finance Division
39. Mr. Hiroshi Takano
   Assistant General Manager, International Support Division

NEC NIPPON ELECTRIC CO. LTD.
40. Mr. Chishiro Tsuneoka
    Senior Assistant to Executive Vice President
41. Mr. Haruo Akiyama
    Planning Manager, International Electronic Devices Marketing Promotion Division

ALPS ELECTRIC CO. LTD.
42. Mr. Yasuyuki Miyamoto
    Director, General Manager, International Sales Department.
43. Mr. Shoji Ogasawara
    Managing Director, General Manager, Overseas Operations

MURATA MFG. CO. LTD.
44. Mr. Tsuguo Sato
    Manager, Purchasing Department
45. Mr. H. Ojima
    Manager, Finance Department

NAITO DENSEI KOGYO CO. LTD.
46. Mr. Yukio Ohgane
    Manager, Administration Department
47. Mr. Hamaya Toshio
    Manager, Finance Department

FOSTER ELECTRIC CO. LTD.
48. Mr. Hiromi Yoshizawa
    Manager, Finance Department
49. Mr. C.T. Lin
    Export Section, Overseas Acoustic Division

ABE HATOME CO. LTD.
50. Mr. S. Obata
    Chief Accounting Department, Director
51. Mr. M. Seida
    Chief Overseas Department
III Financial Institutions

THE EXPORT-IMPORT BANK OF JAPAN

52. Mr. Kazuteru Take
Senior Economist, Research Institute of Overseas Investment

53. Mr. Isao Kawahara
Senior Managing Officer, International Relations Division

54. Mr. Kuniaki Ito
Assistant Manager, Loan Administration Division
Administration Dept

THE OVERSEAS ECONOMIC COOPERATION FUND (JAPAN)

55. Mr. Satoshi Iijima
2nd Economic Research Division,
Economic Research and Technical Appraisal Department

56. Mr. Yujo Okano
2nd Economic Research Division,
Economic Research and Technical Appraisal Department

THE INDUSTRIAL BANK OF JAPAN, LTD.

57. Mr. Atsuhiro Kato
General Manager, Loan Department No.1

58. Mr. Keisuke Yamada
Deputy General Manager, Industrial Finance Seminar Division

59. Mr. Takao Nakagawa
Manager, Business Development Department

60. Mr. Shin-Ichi Watanabe
Assistant Manager, Loan Department No.2

61. Mr. Hosoya
Manager, Industrial Research Department

62. THE SUMITOMO BANK, LTD.

Mr. Sotaro Hidaka
Joint General Manager, Merchant Banking Department

63. Mr. Hitoshi Suzuki
Assistant General Manager, Merchant Banking Department

64. Mr. Naohiko Watanabe
Assistant General Manager, Public Affairs Department
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<th>No.</th>
<th>Organization / Person</th>
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<td>65.</td>
<td>CITIBANK, N.A.</td>
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<td></td>
<td>Mr. Takaharu Itoh</td>
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<td>Assistant Vice President</td>
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<td>Mr. Robert M. Spence</td>
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<td>Mr. Kazuo Maekawa</td>
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<td>BANK OF TOKYO</td>
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<td>68.</td>
<td>Mr. Katsuhiko Azuma</td>
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<td>IV Others</td>
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<td>69.</td>
<td>THE JAPAN ECONOMIC RESEARCH CENTER</td>
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<td></td>
<td>Mr. Takaaki Eguchi</td>
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<td>Staff Economist</td>
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<td>Mr. Junji Sagara</td>
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<td>Staff Economist</td>
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<td>IBI INTERNATIONAL BUSINESS INFORMATION K.K.</td>
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<td>Mr. Tran Van Tho</td>
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<td></td>
<td>Consultant</td>
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<td>72.</td>
<td>ASSOCIATION FOR PROMOTION OF INTERNATIONAL CO-OPERATION (APIC)</td>
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<td>Mr. H. Matsumoto</td>
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<td>Secretary-General</td>
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<td>THE NIHON KEIZAI SHIMBUN</td>
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<td>Mr. Jun Ichi Ogino</td>
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<td>Industrial News Correspondent</td>
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<td>THE ECONOMIST</td>
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<td>Miss Julia Elcock</td>
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<td>Correspondent (Finance &amp; Commodities)</td>
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<td>75.</td>
<td>INSTITUTE OF DEVELOPING ECONOMIES</td>
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<td>Mr. Takeshi Mori</td>
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<td></td>
<td>Senior Research Officer</td>
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<td>Institute of Developing Economies</td>
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<td>76.</td>
<td>JETRO - Japan External Trade Organization</td>
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<td>Mr. Toshihisa Nagasaka</td>
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<td>Director, Quantitative Analysis Team, Economic Information Department</td>
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JAPAN OVERSEAS ENTERPRISES ASSOCIATION

77. Mr. Kazuo Kitamura
Chief Representative

COMALCO JAPAN K.K.

78. Mr. Akiro Umeda
General Manager, Business Department No.1

79. Mr. Motofumi Oda
General Manager, General Affairs Department

80. Mr. Hiroshi Osawa
General Manager, Business Department No.3

MINISTRY OF FINANCE

81. Mr. H. Kawano
Section Head, International Finance Bureau
Foreign Investment Division 3
APPENDIX II

Overview of Japanese Direct Foreign Investment

In order to define appropriately the scope of this study, it is essential to have a proper perspective of Japanese direct foreign investment. The major features and developments in investment trends, the form in which investments have been made and the regional and sectoral distributions of investments are discussed in the following.

Investment Trends

After the end of World War II Japanese dfi resumed in 1951 but it remained insignificant until the late sixties. One of the main reasons was stringent government control on capital outflows which was aimed at conserving scarce foreign exchange reserves. Another important factor was the collapse of managerial resources during the War and in the period between 1945 and 1960, Japanese firms were pre-occupied with domestic economic recovery. The relatively low wage rates that prevailed until the mid-1960s gave Japanese firms very little incentive to re-locate production overseas for purposes of reducing production costs. During this period, Japanese dfi was designed to help restore the Japanese economy as an exporter of manufactured goods and to secure overseas resources.

By the late sixties, however, the Japanese economy had attained such a high level of growth and development that it was

1. Over the period 1951 to 1962 annual Japanese dfi averaged below US$100 million; from 1963 to 1967 the average was about US$200 million, but in 1968 Japanese dfi was almost US$600 million [MITI. (1983)].
faced with a new set of problems. The export position of Japanese manufacturing industries was increasingly threatened by growing resistance from both developing and developed countries, rising labour and other production costs and the increasing value of the Japanese yen. At the same time Japan had become one of the world's largest consumers of raw materials, and with its heavy dependence on imports, security of supply became even more critical. As a result of these developments, Japanese industries were keen to establish manufacturing operations abroad to defend their export markets and to take advantage of low-cost labour and other production costs. They also became even more interested in investing in resource exploration and development to secure supply. 3

This drive by Japanese enterprises to expand dfi was facilitated by a timely change in government policy to deal with its balance of payments surpluses on current account. To try to reduce this surplus which had been substantial since 1965 4 and was pushing up the value of the yen thereby threatening Japan's export competitiveness, the promotion of capital outflows became a major policy instrument. 5 Consequently, starting from October 1969, foreign exchange controls on dfi were progressively liberalised, and by 1972, almost all dfi proposals were granted automatic approval. 6 The combination of these economic and policy changes resulted in a dramatic increase in Japanese dfi activities as shown in Table II.1. As at the end of fiscal year 1967, the cumulative

Table II.1
Japanese Direct Foreign Investment

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Equity Investment</th>
<th>Loan Investment</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>Value</td>
<td>%</td>
<td>Value</td>
<td>%</td>
</tr>
<tr>
<td>1951-67</td>
<td>41.6</td>
<td>603</td>
<td>38.2</td>
<td>554</td>
</tr>
<tr>
<td>1968</td>
<td>35.7</td>
<td>199</td>
<td>58.9</td>
<td>328</td>
</tr>
<tr>
<td>1969</td>
<td>33.5</td>
<td>223</td>
<td>60.8</td>
<td>404</td>
</tr>
<tr>
<td>1970</td>
<td>32.7</td>
<td>296</td>
<td>63.1</td>
<td>570</td>
</tr>
<tr>
<td>1971</td>
<td>54.9</td>
<td>471</td>
<td>38.8</td>
<td>333</td>
</tr>
<tr>
<td>1972</td>
<td>76.2</td>
<td>1,781</td>
<td>10.8</td>
<td>252</td>
</tr>
<tr>
<td>1973</td>
<td>62.3</td>
<td>2,177</td>
<td>31.5</td>
<td>1,100</td>
</tr>
<tr>
<td>1974</td>
<td>52.7</td>
<td>1,262</td>
<td>45.8</td>
<td>1,098</td>
</tr>
<tr>
<td>1975</td>
<td>50.4</td>
<td>1,652</td>
<td>45.3</td>
<td>1,485</td>
</tr>
<tr>
<td>1976</td>
<td>42.9</td>
<td>1,487</td>
<td>54.4</td>
<td>1,882</td>
</tr>
<tr>
<td>1977</td>
<td>47.0</td>
<td>1,319</td>
<td>49.5</td>
<td>1,388</td>
</tr>
<tr>
<td>1978</td>
<td>44.3</td>
<td>2,038</td>
<td>51.8</td>
<td>2,383</td>
</tr>
<tr>
<td>1979</td>
<td>36.7</td>
<td>1,833</td>
<td>59.9</td>
<td>2,994</td>
</tr>
<tr>
<td>1980</td>
<td>48.9</td>
<td>2,295</td>
<td>46.6</td>
<td>2,187</td>
</tr>
<tr>
<td>1981</td>
<td>36.2</td>
<td>3,247</td>
<td>62.6</td>
<td>5,574</td>
</tr>
<tr>
<td>1982</td>
<td>43.8</td>
<td>3,375</td>
<td>54.3</td>
<td>4,179</td>
</tr>
<tr>
<td>Total</td>
<td>45.7</td>
<td>24256</td>
<td>50.3</td>
<td>26712</td>
</tr>
</tbody>
</table>

Notes:
1. Figures are based on investments that were notified to and approved by the Ministry of Finance.
2. Fiscal year ends on 31st March.
3. Includes acquisition of real estate, the establishment of branches and others.

2. MITI, News from MITI, MITI Information Office, 1983, p.3.

The total of Japanese dfi was less than US$1.5 billion, but six years later it had increased seven-fold to more than US$10 billion.

The oil crisis in late 1973 ended this trend and over the next five years from 1974 to 1977, Japanese dfi showed little growth. However, since 1978 there has been a resurgence in Japanese dfi activities which peaked at $8.9 billion in 1981. The key factors underlying this expansion phase were the increasing

protectionism in developed countries against Japanese exports of manufactured goods, especially in US; and a renewed urgency to secure raw materials following the second oil price hike in 1977. Also, with slower domestic growth and the rationalisation of operations in Japan after the first oil crisis, Japanese firms had a surplus of both financial and management resources for investment overseas.  

Overall, Japanese dfi has had a brief history reaching a significant level only in the late sixties, but since then it has grown dramatically. The rate of growth has not been constant but, as shown in Figure II.1, has been step-like, with sharp increases followed by periods of consolidation.

**Form of Investment**

Official statistics of Japanese dfi include: (1) equity investment - the acquisition of stocks of local affiliates (2) loan investment - loans of more than one year to local affiliates (3) acquisition of real estate (4) the establishment of branches and (5) overseas direct work projects. The inclusion of "loan investments" in these statistics is rather unusual, but reflects the significance of the use of debt capital as a substitute for equity in Japanese firms.

As can be seen in Table II.1, the most important form of Japanese dfi is loan investment which accounted for more than 50%

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10. Ozawa (1979) p.38

"The normal practice of the International Monetary Fund (IMF) and the United States is to exclude loans from such a classification on the grounds that loans do not accompany ownership and managerial controls."
FIG II.1  JAPANESE DIRECT FOREIGN INVESTMENT

Source: As in Table II.1
per cent of total dfi as at the end of 1982. With equity investment accounting for more than 45 per cent, these two categories together represented the bulk (96 per cent) of Japanese dfi. Loan investments declined to the lowest level of 10.8 per cent of total dfi in 1972, but since then have been on an upward trend until 1976 when it once again exceeded equity investments. The significance of loan investments is due to the following factors:

1) funds for large-scale resource development projects are mainly supplied in the form of loan investments. Further, the massive cost over-runs that have been experienced with some major projects in recent years have also been financed with loan rather than an increase in capital subscriptions;

2) loan investments are used widely to provide additional working capital required for an expansion of local sales networks and existing plants. As the number of established subsidiaries these loans become an increasingly significant proportion of total dfi; and,

3) with the relatively high interest rates in the United States, especially in the early eighties, Japanese firms have shifted funds procurement for its American operations to Japan.\textsuperscript{11}

**Regional Distribution**

The most important regions for Japanese dfi are North America and Asia, each accounting for almost 30 per cent of total Japanese dfi as at the end of 1982. In North America, most of the investments have been made in the United States, which (with 26.3 per cent of total Japanese dfi) is by far the most important host country for Japanese dfi. About half of Japanese dfi in Asia has

\textsuperscript{11} JETRO (1983), EXIM (1980).
been directed to Indonesia (which is second in ranking after the United States with 13.7 per cent) and most of the balance, distributed among five other countries. Details of the distribution of Japanese dfi by region and country are shown in Table II.2.

Since the late sixties, there have been significant shifts in the regional distribution of Japanese dfi. As can be seen from Table II.3, the proportion of Japanese dfi directed to the "developing regions" has declined from 71.4 per cent in 1965 to around 50 per cent since 1970. Conversely, the share of "developed countries" increased from 28.6 per cent to 50 per cent. This growth was experienced in all the three developed regions, but the rate of growth was more significant in Europe and Oceania. The decline of Japanese dfi in developing countries was however not so evenly distributed. The Asian and African regions experienced increases in their share of total Japanese dfi, while Central and South America, and the Middle East became much less important recipients. (Table II.3).

The differences in the relative importance of various regions and countries as recipients of Japanese dfi, and the shifts in their relative position reflect the differences and changes in the motives of Japanese firms undertaking dfi, and the investment climate in the host countries.

Japanese dfi in the United States (which constitutes more than 90 per cent of Japanese dfi in North America) has primarily been in support of Japan's export drive to penetrate the lucrative North
Table II.2
Japanese Direct Foreign Investment - By Country and Region
as at end of Fiscal Year 1982

<table>
<thead>
<tr>
<th>COUNTRY-REGION</th>
<th>US $ MILLION</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>13,970</td>
<td>26.3</td>
</tr>
<tr>
<td>Canada</td>
<td>1,255</td>
<td>2.4</td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>3,545</td>
<td>6.7</td>
</tr>
<tr>
<td>Panama</td>
<td>2,022</td>
<td>3.8</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,042</td>
<td>2.0</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>7,268</td>
<td>13.7</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1,825</td>
<td>3.5</td>
</tr>
<tr>
<td>Singapore</td>
<td>1,383</td>
<td>2.6</td>
</tr>
<tr>
<td>Korea</td>
<td>1,312</td>
<td>2.5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>764</td>
<td>1.4</td>
</tr>
<tr>
<td>Philippines</td>
<td>721</td>
<td>1.4</td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia &amp; Kuwait</td>
<td>1,113</td>
<td>2.1</td>
</tr>
<tr>
<td>Iran</td>
<td>1,002</td>
<td>1.9</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.K.</td>
<td>2,296</td>
<td>4.3</td>
</tr>
<tr>
<td>West Germany</td>
<td>808</td>
<td>1.5</td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liberia</td>
<td>1,692</td>
<td>3.2</td>
</tr>
<tr>
<td>Oceania</td>
<td>3,370</td>
<td>6.3</td>
</tr>
<tr>
<td>Australia</td>
<td>2,882</td>
<td>5.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>53,131</td>
<td>100.0</td>
</tr>
</tbody>
</table>

American consumer markets since the end of World War II. As a result, investment in commerce, banking, insurance and other service sectors accounts for almost 65 per cent (Table II.4) of total Japanese dfi in the North American region. This region also has the highest share of total Japanese dfi in this sector - almost 40 per cent (Table II.5).

Following the success of its exports to the region, Japanese manufacturers started to invest in production facilities in the United States. Dfi in the manufacturing sector was significantly stepped up in 1977 as Japanese firms strove to replace exports from Japan with local production in the face of heightened trade friction. In the period 1978-81, dfi in manufacturing was 32.5 per
cent of total Japanese dfi compared to 23.8 per cent between 1974-77.13

A very similar pattern of distribution of Japanese dfi by industry sector applies to Europe as shown in Table II.4. However, the European countries are much less important recipients of Japanese dfi than the United States, and have declined relatively (Table II.3). Therefore it appears that although Europe has some similar attributes to the United States, there are some other important differences.

Moving against the trend in most of the developed countries, however, are Australia and Canada. In these two countries, an abundance of energy and other mineral resources and a relatively small population have resulted in the predominance of investment in resource development and processing activities.14

In the Asian countries, the traditional host countries because of their geographic proximity and the other major region for investment, the growth of Japanese dfi has been two-pronged. The abundance of natural resources and bilateral government arrangements as part of Japan's overseas development aid program have resulted in major Japanese investment in resources development, particularly in Indonesia. The Asian region, accounting for 50.1 per cent of total Japanese dfi in the primary sector is the most important region for Japanese dfi in resources development (Table II.5). At the same time, Japanese firms were attracted to establish manufacturing facilities in the region for a number of reasons. The industrialisation policies of some Asian countries which encouraged the inflow of dfi, the availability of

relatively cheap labour at a time when labour-intensive industries in Japan were hit by spiralling wage costs, and the granting of preferential tariff treatment for manufactured imports from developing countries, altogether provided a strong incentive for firms to relocate production to these countries.15 As with resources development, the Asian region also has the largest share (34.2 per cent) of Japanese dfi in manufacturing (Table II.5). The continual improvement in relations between Japan and its Asian neighbours and the relative political stability and high economic growth of the region16 also appear to have contributed to the increasing importance of this region (Table II.3).

Like the Asian countries, the Central and South American countries have rich natural resources, government policies that are conducive for foreign investment, a large and cheap labour force, and in addition, an even larger domestic market in some countries. These factors had attracted substantial Japanese dfi especially in the fifties and early sixties. Table II.3 shows that as at 1965, this region had the largest share (29.6 per cent) of Japanese dfi, ahead of North America (25.4 per cent) and Asia (19.8 per cent). However by 1970 it had dropped to and remained in third position, with only about 60 per cent of its share in 1965. This is probably due to the relative decline in the investment climate of this region which has been plagued by political instability, high inflation and economic stagnation throughout the seventies. As a result dfi appears to have been diverted to other regions.

### Table II.4

**Sectoral Distribution of Japan's Direct Foreign Investment within Different Regions at the End of Fiscal Year 1982**

<table>
<thead>
<tr>
<th>Region</th>
<th>Primary Sector %</th>
<th>Manufacturing Sector %</th>
<th>Commerce and Services %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>7.2</td>
<td>27.9</td>
<td>64.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td>18.6</td>
<td>38.8</td>
<td>42.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Asia</td>
<td>39.2</td>
<td>39.9</td>
<td>21.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Middle East</td>
<td>1.7</td>
<td>45.9</td>
<td>52.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Europe</td>
<td>14.0</td>
<td>19.2</td>
<td>66.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Africa</td>
<td>24.7</td>
<td>6.1</td>
<td>69.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Oceania</td>
<td>41.7</td>
<td>29.2</td>
<td>29.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Source:** MITI, "Japan's Direct Foreign Investments in Fiscal 1982", News from MITI, July 1983, Table 4.

### Table II.5

**Regional Distribution of Japan's Direct Foreign Investment by Industrial Sector at the End of Fiscal Year 1982**

<table>
<thead>
<tr>
<th>Region</th>
<th>Primary Sector %</th>
<th>Manufacturing Sector %</th>
<th>Commerce and Services %</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>9.6</td>
<td>25.1</td>
<td>39.8</td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td>14.5</td>
<td>20.3</td>
<td>15.2</td>
</tr>
<tr>
<td>Asia</td>
<td>50.1</td>
<td>34.2</td>
<td>12.3</td>
</tr>
<tr>
<td>Middle East</td>
<td>0.4</td>
<td>6.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Europe</td>
<td>7.6</td>
<td>7.0</td>
<td>16.5</td>
</tr>
<tr>
<td>Africa</td>
<td>5.5</td>
<td>0.9</td>
<td>7.0</td>
</tr>
<tr>
<td>Oceania</td>
<td>12.3</td>
<td>5.8</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**TOTAL**  
100.0  
100.0  
100.0

**Source:** MITI, "Japan's Direct Foreign Investments in Fiscal 1982", News from MITI, July 1983, Table 4.
Among the industrial sectors, the largest proportion of Japanese dfi has been directed to the commerce and services industries. As at the end of fiscal 1982 they accounted for 46.7 per cent, almost half of total Japanese dfi, while the primary sector had 21.4 per cent (of which mining accounted for 19.4 per cent), and manufacturing had 31.9 per cent (Table II.6). However, the primary and manufacturing sectors were more important than the commerce and services sector before 1965 but since the late sixties, the latter has grown at a much faster rate and overtaken the other two sectors (Table II.7). This was primarily caused by the rapid growth of investments in the commerce industry in the United States especially, and in Europe, that was complementary to the expansion of trade with these countries during this period.17

Although dfi in resources development increased at a relatively slower rate than the other two sectors, the rate of increase was nevertheless phenomenal. In the twelve year period between 1970 and 1982, the total value increased almost ten-fold from $1.1 billion to $10.3 billion. In line with Japan's policy to diversify supply of resources, Japanese dfi in this sector has been significant in a number of regions, each accounting for more than 10 per cent of the total (Table II.5).

Dfi in the manufacturing sector has consistently accounted for about one-third of Japanese dfi except around 1970 when its rate of increase lagged behind the other two sectors (Table II.7). Until

"Typically these investments were related to trading firms' subsidiaries through which they imported natural resources and to manufacturers' sales bases through which they exported their products".
Table II.6

Japanese Direct Foreign Investment by Industry - cumulative Total as at the end of Fiscal Year 1982

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>US $ MILLION</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>723</td>
<td>1.4</td>
</tr>
<tr>
<td>Fisheries</td>
<td>358</td>
<td>0.7</td>
</tr>
<tr>
<td>Mining</td>
<td>10,291</td>
<td>19.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>16,952</td>
<td>31.9</td>
</tr>
<tr>
<td>Foodstuff</td>
<td>806</td>
<td>1.5</td>
</tr>
<tr>
<td>Textile</td>
<td>1,795</td>
<td>3.4</td>
</tr>
<tr>
<td>Lumber, Pulp</td>
<td>899</td>
<td>1.7</td>
</tr>
<tr>
<td>Chemicals</td>
<td>3,176</td>
<td>6.0</td>
</tr>
<tr>
<td>Iron, Non-Ferrous Metals</td>
<td>3,608</td>
<td>6.8</td>
</tr>
<tr>
<td>Machinery</td>
<td>1,265</td>
<td>2.4</td>
</tr>
<tr>
<td>Electric Machinery</td>
<td>2,322</td>
<td>4.4</td>
</tr>
<tr>
<td>Transport Machinery</td>
<td>1,822</td>
<td>3.4</td>
</tr>
<tr>
<td>Others</td>
<td>1,258</td>
<td>2.4</td>
</tr>
<tr>
<td>Commerce and Services</td>
<td>24,807</td>
<td>46.7</td>
</tr>
<tr>
<td>Construction</td>
<td>536</td>
<td>1.0</td>
</tr>
<tr>
<td>Commerce</td>
<td>8,482</td>
<td>16.0</td>
</tr>
<tr>
<td>Financing, Insurance</td>
<td>3,802</td>
<td>7.2</td>
</tr>
<tr>
<td>Services</td>
<td>2,717</td>
<td>5.1</td>
</tr>
<tr>
<td>Transportation</td>
<td>1,649</td>
<td>3.1</td>
</tr>
<tr>
<td>Others</td>
<td>7,621</td>
<td>14.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>53,131</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table II.7

Distribution of Cumulative Direct Foreign Investment by Industrial Sector (Per cent)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Industries</td>
<td>34.9</td>
<td>34.0</td>
<td>28.1</td>
<td>21.9</td>
<td>21.4</td>
</tr>
<tr>
<td>Mining</td>
<td>32.5</td>
<td>31.7</td>
<td>25.9</td>
<td>19.4</td>
<td>19.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>35.5</td>
<td>25.9</td>
<td>32.4</td>
<td>34.4</td>
<td>31.9</td>
</tr>
<tr>
<td>Commerce &amp; Services</td>
<td>29.6</td>
<td>40.1</td>
<td>39.5</td>
<td>43.7</td>
<td>46.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources: 1) Sekiguchi (1979), Japanese Direct Foreign Investment, p. 24
2) JETRO (1983) Kaigai Toshi Hakusho, p.12
3) Table II.6.

In summary, Japanese dfi only reached a significant level during the late sixties in response to various economic developments which favoured dfi, but in the fifteen year period from 1967 to 1982, it has expanded dramatically from $1.1 billion to $53.1 billion. Most of these investments have been in the form of equity (45 per cent) and loan (50 per cent) investments.

In terms of regional distribution, Asia and North America are the most important recipients of Japanese dfi. The Asian countries

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which are both geographically and culturally closest to Japan, have been the traditional area for Japanese dfi. Through their rich endowment of natural resources they have attracted more than half of total Japanese dfi in resources development. They also have the largest share of Japanese dfi in manufacturing as Japanese firms are drawn by various factors to re-locate production in these countries. In contrast to Asia, Japanese dfi activities in North America, and particularly in the United States, are predominantly in the commerce and services sector, a reflection of its position as Japan's largest trading partner. In recent years, dfi in manufacturing, especially in technology-based industries, have also become increasingly important because of heightened trade friction between the two countries.

Among the industrial sectors, the commerce and services sector has been the most important recipient of Japanese dfi — in line with the importance of trade to the Japanese economy. They account for almost 50 per cent of total Japanese dfi, while 31.9 per cent has been directed to the manufacturing sector and 21.4 per cent to primary industries. However, all these sectors have experienced rapid growth since the late sixties.
APPENDIX III

Foreign Exchange Rate of US Dollar in Japanese Yen

<table>
<thead>
<tr>
<th>Year</th>
<th>¥</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>361.9</td>
</tr>
<tr>
<td>1968</td>
<td>357.7</td>
</tr>
<tr>
<td>1969</td>
<td>357.8</td>
</tr>
<tr>
<td>1970</td>
<td>357.6</td>
</tr>
<tr>
<td>1971</td>
<td>314.8</td>
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<tr>
<td>1972</td>
<td>302.0</td>
</tr>
<tr>
<td>1973</td>
<td>280.0</td>
</tr>
<tr>
<td>1974</td>
<td>300.1</td>
</tr>
<tr>
<td>1975</td>
<td>305.1</td>
</tr>
<tr>
<td>1976</td>
<td>292.8</td>
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<tr>
<td>1977</td>
<td>240.0</td>
</tr>
<tr>
<td>1978</td>
<td>194.6</td>
</tr>
<tr>
<td>1979</td>
<td>239.7</td>
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<td>1980</td>
<td>203.0</td>
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<tr>
<td>1981</td>
<td>219.9</td>
</tr>
<tr>
<td>1982</td>
<td>235.0</td>
</tr>
</tbody>
</table>

Source: IMF, *International Financial Statistics*
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Abbreviations

EXIM - Export-Import Bank of Japan
IBJ - Industrial Bank of Japan
JETRO - Japan External Trade Organisation
MITI - Ministry of International Trade and Industry
OECF - Overseas Economic Co-operation Fund


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