DEVELOPMENT BANKS AND THE FINANCING OF SMALL-SCALE ENTERPRISES, WITH SPECIFIC REFERENCE TO THE CHINA INVESTMENT BANK

by

SHENHUA WANG

B.A., Northeast University of Finance and Economics, Dalian, China, 1982

A MASTER'S REPORT

Submitted in partial fulfillment of the requirement for the degree

MASTER OF ARTS

ECONOMICS

KANSAS STATE UNIVERSITY
Manhattan, Kansas
1989

Approved by:

[Signature]

Major Professor
TABLE OF CONTENTS

LIST OF FIGURES ........................................ iv
LIST OF TABLES ........................................ v
ACKNOWLEDGEMENTS ...................................... vi

SECTION

I. DEVELOPMENT BANKS ................................. 1
   Nature and Evolution of Development Banks
   Classification of Development Banks
   The Dual Aspect of Development Banks
   World Bank and the International Finance Corporation Assistance to Development Banks

II. FINANCING SMALL-SCALE ENTERPRISES BY
    DEVELOPMENT BANKS ................................. 9
    The Importance of Small-Scale Enterprises
    in Developing Economy
    Problems of Small-Scale Enterprises
    The Role of the Development Banks in Financing Small Scale enterprises
    Appraisal and Supervision Criteria in Small Scale Enterprises Financing
    Some Economic Models Used by Development Banks

III. CASE STUDY: FINANCING SMALL-SCALE ENTERPRISES
    BY THE CHINA INVESTMENT BANK ....................... 24
    The China Investment Bank
Financing small-scale enterprises by the China Investment Bank

IV. SUMMARY AND CONCLUSION ......................... 33

BIBLIOGRAPHY ............................................. 34
LIST OF FIGURES

1. Derivation of an Internal Rate of Return ...... 22
2. Cumulative China Investment Bank Loans,
   1983-86 ........................................ 31
3. Cumulative Number of Projects Financed
   by CIB ........................................... 32
LIST OF TABLES

1. Projects Ordinarily Financed by Different Types of Development Bank ................. 7
2. A Sample Project Evaluation ......................... 20
3. Evaluation Result of the Sample Project ........ 21
5. Number of Projects Financed by CIB ............. 30
ACKNOWLEDGEMENTS

I would like to take this opportunity to express my deepest gratitude and sincere appreciation to Dr. Edwin G. Olson, My major professor, for his valuable guidance and continuous assistance in the writing of this report and throughout my graduate program.

I would also like to thank Dr. Patrick J. Gormely and Dr. E. Wayne Nafziger for serving as my graduate committee members. Their suggestions were very helpful in the preparation and completion of this report.

Finally, I am greatly indebted to my family and the China Investment Bank; without their constant support and encouragement, I would not have been able to complete this degree.
This report focuses on the China Investment Bank (CIB), which makes loans primarily to Small-Scale Enterprises (firms with less than 100 employees). As a result of this focus, the discussion of development banking is restricted to those topics relevant to the operation of the CIB. Development of large industry lies outside the scope of this report. Though the report begins with a broad look at the general nature of development banking, in section II it becomes specific to the nature and problems of Small Scale Enterprises (SSE). Finally, in section III, the operation of the CIB is explained.

I. Development Banks

A. Nature and Evolution of Development Banks

Development banks are financial institutions in developing countries that specialize in the provision of medium and long term financing for the purpose of industrialization (Diamond, 1981, p. 4). They rely on the operational and financial success of the enterprises they finance for recovery of their investment, rather than on the security of collateral, and they do so in a manner that balances commercial standards of operation with economic benefit for the developing countries.

The concept of such an institution did not spring full blown into the minds of officials of developing countries just
thirty years ago. It is linked to the investment banks that emerged in Europe about 150 years ago, which combined industrial promotion, risk-taking and the power to mobilize and provide long-term finance. These banks were engines for the rapid industrialization and economic growth of Europe and, later, of Japan (Mikesell, 1966, pp. 61-114). In this century, governments of developed countries have often promoted or established specialized financial institutions to deal with specific difficult problems that confronted them, such as the need to encourage and support new and small business, to develop backward areas, and to assist enterprises suffering from the effects of natural disasters or depressions. At the same time, and especially since World War II, developing countries also created specialized financial institutions to enhance economic growth by assisting investment in capital (Kane, 1975, pp. 1-15).

The function of these financial institutions in an open economy can be simply formulated as follows:

\[ Y = C + I + X - M \]  

(1)

Where

\( Y \) = Gross Domestic Products
\( C \) = Consumption
\( I \) = Investment
\( X \) = Export
\( M \) = Import

Alternatively, the total GDP can be broken down into
\[ Y = C + S \]  \hspace{1cm} (2)

Where

\[ S = \text{Savings} \]

Therefore investment and savings can be derived from Equations (1) and (2), respectively, as follows:

\[ I = Y - C - (X - M) \]  \hspace{1cm} (3)

\[ S = Y - C \]  \hspace{1cm} (4)

Equation (4) is subtracted from Equation (3) to obtain

\[ I - S = M - X \]  \hspace{1cm} (5)

If both sides of the equation are positive, the left side of the equation is the gap between investment and savings, and the right side is the shortfall of exports relative to imports. Development banks attempt to provide the savings to finance investments and imports requisite for economic growth (Nikbakht, 1984, pp. 118-19).

To the extent that development banks participate in the creation of credit, the transmission of funds from surplus to deficit spending units, or the creation of financial instruments that permit the accumulation and diversification of assets, they can be said to perform the functions of financial intermediaries (Ramirez, 1986, p. 9). In any economy, the flow of funds is such that loanable funds supplied are, in the aggregate, equal to loanable funds demanded; net financial assets and liabilities are, on balance, equal for surplus and deficit spending units, respectively.
Now let $\Delta R$ be defined as the change in receipts, $\Delta E$ the change in expenditures, $\Delta D$ any increase in debt, and $\Delta A$ any rise in financial assets accruing to the spending unit. Hence, for any spending unit we have the following condition:

$$\Delta E - \Delta R = \Delta D - \Delta A$$  \hspace{1cm} (6)

or

$$\Delta E = (\Delta R - \Delta A) + \Delta D = \Delta F$$  \hspace{1cm} (7)

Where

$\Delta F =$ change in total finance

$\Delta R - \Delta A =$ change in internal finance

$\Delta D =$ Change in external finance

That is, the total change in expenditures by the final buyers must be equal to any increase in their internal and/or external finance. Furthermore, if we let the subscripts b, s, and d stand for balanced, surplus, and deficit spending units respectively, we may classify them in the following fashion:

**Balanced budget:** $\Delta D_b = \Delta A_b$

**Surplus budget:** $\Delta D_s < \Delta A_s$

**Deficit budget:** $\Delta D_d > \Delta A_d$

Finally, the flow-of-fund condition for the economy at large may be written as

$$\sum_{i=1}^{n} \Delta A_{si} - \sum_{i=1}^{n} \Delta D_{si} = \sum_{i=1}^{n} \Delta D_{di} - \sum_{i=1}^{n} \Delta A_{di}$$  \hspace{1cm} (8)

In words, the net increment in financial assets by
surplus spending units is just sufficient to absorb the net issue or increase in liabilities by the deficit spending units (Remirez, 1986, pp. 9-11). Development banks as financial institutions have played an important role in providing long and medium term funds for deficit spending units.

B. Classification of Development Banks

Development banks are ordinarily classified by type of ownership (Kane, 1975, p. 24). The classification of ownership may take the following forms:

1. Private banks are those in which all of the capital stock is owned within the private sector and operating policy is under private sector control. A good example of such an institution is the Corporation Financiera de Caldas in Colombia, whose immediate objective is to assist in the development of private industry mining, agriculture and livestock by providing medium and long term capital, by strengthening Colombia's capital market and by channeling private foreign capital into Colombia (Ramirez, 1986, pp. 24-25).

2. Public banks are those in which all of the capital stock is owned within the public sector and operating policy is under public sector control. For instance, the China Investment Bank is a public bank. The purpose of public development banks is primarily to formulate and implement the general development plan for national production (Kane, 1975,
p. 25).

3. Mixed banks are those in which some capital stock is owned within the private sector and some by the public sector. Private-leaning mixed banks have a majority of capital stock owned within the private sector, which then generally determine the project-selection criteria.

4. Public-leaning mixed banks, with the majority of ownership held in the public sector, tend to follow public sector weighing of project-selection criteria.

C. The Dual Aspect of Development Banks

The purpose for which development banks exist is to increase the speed and to facilitate the process of economic development. However, development banks are peculiar institutions, for, unlike other intermediaries, they must seek to achieve their purpose as a development institution simultaneously with achieving their purpose as a banking institution (Ramirez, 1986, p. 24). They often find themselves having to choose between projects that have a high monetary return but marginal social impact, and those whose development impact far outweighs their pecuniary return.
### TABLE 1
Projects Ordinarily Financed by Different Type of Development Banks

<table>
<thead>
<tr>
<th>Social Benefit</th>
<th>Rate of Return</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>All banks</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Public &amp; public-leaning banks</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Private &amp; private-leaning banks</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>No banks</td>
</tr>
</tbody>
</table>


The development objective is, more often than not, stressed in public development banks as well as in mixed banks with a public orientation. The development bank is intended to help stimulate the emergence of the missing ingredients necessary for development. These ingredients include in varying mixes: capital, entrepreneurship, technological and managerial capabilities, promotional activity, and availability of foreign exchange (Kane, 1975, p. 15).

Private development banks, on the other hand, emphasize
the rate of return to a far greater extent. In other words, private-oriented banks tend to support projects which yield a high marginal monetary return whether or not they have a low marginal social benefit. This characterization applies to private leaning banks.

D. The World Bank and the International Finance Corporation (IFC) Assistance to Development Banks

The World Bank family includes the International Bank for Reconstruction and Development (IBRD), commonly known as the "World Bank"; the International Development Association (IDA); and the International Finance Corporation (IFC). They were originally designed to mobilize capital for the reconstruction of countries devastated by World War II and to assist the economies of the developing countries of the world. The World Bank has been associated with the creation, reinforcement and financing of development banks for nearly forty years. The initial loan to a development bank was to the Industrial Bank of Turkey in 1949. After that, the World Bank supported many of successful development banks, among them the Industrial Credit and Investment Corporation of India, the Pakistan Industrial Credit and Investment Corporation, and the Development Bank of Singapore (Houk, 1967, p. 8).

There were only about a dozen viable development banks before 1946, but after the Second World War, the number of such banks increased rapidly. At present, there are about 400
such institutions, of which more than 100 in 73 countries owe their existence and strength to the World Bank, which provided gross financial commitments of some $13 billion in 1980 (Gordon, 1984, p. 5). Up to 1985 the World Bank and IFC had lent $11 billion to development banks of less developed countries (LDCs) which assisted new projects that had a total cost of $50 billion, mostly in small and medium private enterprises (Diamond, 1986, p. 3). To help spread the employment effects of these investments, an increasing proportion of this lending has, in recent years, been designed to support small, labor-intensive industries. The second part of this paper discuss in detail the financing of small-scale enterprises by development banks.

II. Financing Small-Scale Enterprises by Development Banks

There is much confusion about the term "Small-Scale Enterprises". The definition used here will be the one given by Dr. Eugene Staley: roughly speaking, small industries are those with fewer than 100 employees. Rather than using a statistical definition, Dr. Staley defines it

... in terms of certain functional characteristics which make its problems and opportunities somewhat different from those of medium and large industry. These functional characteristics include relatively little specialization in management ("one man" management), lack of access to capital through
the organized securities market, no special bargaining strength in buying or selling in major market, and often, though not always, a relatively close integration with the local community through local ownership and management and dependency on nearby markets and sources of supply. These characteristics give small industry certain disadvantages, and certain special needs for types of advice and aid which are not so much needed by large manufacturing firms. They also confer some advantages, chief of which is flexibility (Staley, 1962 p. 201).

A. The Importance of Small-Scale Enterprises in Developing Economy.

Small-Scale Enterprises (SSE) have a vital role to play in any developing economy. First, SSE are generally more labor-intensive than larger industries. Thus, more jobs are created with limited capital available for developing countries. The neoclassical theory suggests that the availability of factors will determine the appropriate technology. A survey of plants in Indonesia showed labor-intensive techniques resulted in 13 times more employment than capital-intensive techniques for an equal output of cigarettes; 12 times more for flashlight batteries; 6 times more for tires; and 23 times more for soft drinks (Hogendorn, 1987, p. 177).

Second, small units have an advantage in meeting local demands where shipping costs are high or the product is perishable. Thus bricks and tiles, fresh baked goods, or soft drinks can be produced more economically by relatively small
local establishments than by great central factories. In Bangladesh, SSE account for more than 40 percent of total contribution to GDP of manufacturing (Kamaluddin, 1982, p. 181-95). SSE produce a wide variety of goods, particularly consumer goods, such as textiles, leather goods, salt, food, tobacco, hides and skins, metal, oil, timber paper products, and engineering goods as well as many kinds of services. In fact more than 80 percent of the domestic supply of cloth in Bangladesh comes from SSE, and a similar proportion of leather goods and footwear. About 100 percent of the country's salt requirement is meet by SSE (Kamaluddin, 1982, p. 4).

Thirdly, small manufacturing establishments have an advantage in meeting highly specialized or individualized demands such as catering to a small volume market or one requiring frequent quick adjustments because of such factors as style changes. They compete very well in women's wear, some types of specialized machinery, surgical equipment, and other fields where the small firm's flexibility stands it in good stead. Large enterprises are handicapped by their bureaucratic procedures and their relatively large overhead expenses. It is uneconomical for them to produce short runs of a nonstandard item, but the small factory can often do so at a profit. Often, the small factory does not even compete directly with the large factory. Instead, it produces different sizes, different styles or slightly different products for which the demand is not great enough to justify
large-scale production, but is still sufficiently great to interest the small firm.

Fourth, SSE provide a seed-bed for entrepreneurial talents. One person is usually responsible for production, administration, finance, marketing and numerous other functions. In China, most of the SSE are collectively owned, though one individual, chief executive officer, is responsible for the profit and loss of the SSE. Under the SSE business structure, the entrepreneurial talents of the chief executive officer, and the staffs which support him can be nurtured. They can became well-trained businessmen. New enterprises could be generated by these new entrepreneurial talents. Like nuclear fission, molecules of enterprises are defusing all over the country as time elapse. Among them, super entrepreneurial talents are born and create large industries (Park, 1982, p. 1).

Entrepreneurship has three essential and linked attributes: first, the ability to perceive profitable business opportunities; second, a willingness to act on what is perceived; and third, the necessary organizing skills associated with a project (Elkan, 1988, p. 21). Without past experience in running business, managers of firms newly created by government investment projects are handicapped. The heads of large government enterprises, who are assigned by political consideration in many developing countries, have been inefficient (Kaynor and Schultz, 1967. pp. 121-43). In
China, before the economic reform, quite a few of big enterprises suffered losses because the heads of the firms were assigned by the government. Some of them did not know how to manage the firm.

Finally, SSE might become large industries at the later stage of economic development, as they expand their production facilities. Some of the world's great firms started this way. Henry Ford began very small. The Apple Computer Company is another example.

B. Problems of Small-Scale Enterprises

Money, marketing and management are the three main constraints of SSE (Raghavan and Timberg, 1982, p. 165).

1. Money. The inadequacy of funds from institutional sources, particularly credit, is a serious problem. Generally, SSE entrepreneurs find capital scarcer and more expensive than do large-scale enterprises because of the higher real and perceived risks and administrative costs of lending to them. In many countries, SSE find themselves forced to borrow greatly in unorganized or unofficial financial markets at far higher rates than are charged by commercial banks and other financial institutions (Raghavan, 1982, p. 3). For example, there are a lot of small Chinese firms that couldn't get loan or credit from state-owned banks in the past. However, the situation is changing; from one side, the state owned banks have started to make loan to them,
and from the other side, the newly established the China Investment Bank is a specialized bank for provide financing for SSE.

2. Marketing. Marketing of products at reasonable prices is one of the serious problems of SSE. Organized outlets are absent, and terms are dictated by the middlemen. The individual SSE are financially incapable of holding their products for better prices, and for the same reason they are not in a position to adopt modern marketing techniques, such as advertising and employing showrooms and skilled salesmen. Moreover, surveys to determine the market situation and trends, changes in consumer demand, and so on, are conspicuously absent in this sector (Kamaluddin, 1982, p.5).

3. Management. Most SSE are either under one-man management or are a closed family affair. As a consequence, planning and decision making are very often influenced by personal considerations to the detriment of the enterprise. This gives rise to a host of related problems. General surveys reveal that lack of good management is one of the principal causes of the high failure rate of SSE (Raghvan, 1982, p.3).

C. The Role of the Development Banks in Financing Small-Scale Enterprises

The role of a development bank in the promotion of SSE varies according to the specific country environment in which
it operates. As mentioned above, money, market, and management are the three main constraints of SSE. To be effective, any program for SSE development should attempt to deal with these handicaps.

1. Financing

The principal need for SSE is equity capital and long-term loans. Most beginning SSE do not have adequate financial resources and are not able to obtain funds by selling shares to the general public. Often they have little to offer as collateral for loans. Existing firms face similar problems in attempting to expand their business operations.

The second need is working capital. The main costs of many small firms are for the purchase of raw materials and for operating expenses. Small firms frequently have insufficient resources of their own. Operations are often on a "buy-and-sell" basis purchasing the raw materials, processing them, and then selling them. The period prior to recovery of expenditures through sales must be covered by working capital loans or equity financing.

2. Assistance in Marketing

The failure of most businesses is due to inadequate investigation of market conditions prior to initiating the business. A potential entrepreneur must determine methods of marketing a product—whether directly by the firm, through special distributors, or through wholesalers. Often the persons who start a business are experienced in production but
not in marketing. Market investigation is a continuing activity in the case of many products because consumer demand may change quickly. Smaller firms in particular need a great deal of assistance in marketing their products.

A few countries reserve production of some items to their own firms, in order to provide a protected market exclusively for the SSE. In India, more than 800 products are now reserved for the SEE sector, and government prohibits expansion of the production facilities for these items to large-scale capacity (Raghavan, 1982, pp. 162-80). The more usual practice is for governments to give some preference to products of SSE in government procurement through quotas, subsidies, or preferential purchases, even if at slightly higher prices, to enable them to compete with large-scale units.

3. Management Services

Management involves many problems. Among those that are noted particularly in newly developing areas are: financial management, inventory control, accounting and operating analysis. The managerial inadequacies in SSE in these areas can be approached by either specialized training for potential entrepreneurs or extension services suitable for the managers of operating enterprises. In a few cases, both these services are provided by the same agency that is entrusted with the task of providing funds for SSE; but the more common practice is to separate the lending and what may be loosely called the
technical assistance functions into two distinct agencies, which cooperate with each other. In order to help identify and develop potential entrepreneurs, a variety of training courses have been organized. The bulk of these courses concentrate on the simple accountancy, marketing and managerial tools needed to run a small business. These training programs are run by banks and are often prerequisites to funding and support.

D. Appraisal and Evaluation Criteria of Small-Scale Enterprises by Development Banks

The criteria of a development bank for channeling funds to SSE must indeed have a direct relation with the development objectives of a country. Ideally the development bank should attempt to channel its resources to those projects which can be expected to have a maximum impact on the development objective. Although the development objective and lending criteria will vary from bank to bank and from time to time, a representative group would include: the priority assigned the industry by the national development plan, the foreign exchange cost incurred in the investment, as well as the foreign exchange requirements once production begins, foreign exchange savings from reduced product imports, foreign exchange earnings, the number and kind of jobs that will be created and the availability of domestic personnel to fill them, the tax flow accruing to government from operations, the
linkage effect for other industries both forward and backward (Kane, 1975, p. 15).

However, a development bank does not act like a normal commercial bank. It does not judge the soundness of a project merely on the basis of its ability to service its debt to the development bank (Bhatt, 1982, p. 6). Doubtless a project should be financially sound in this sense, for unless it can service its debt the development bank itself would not remain a viable institution. But at the same time, a project should be consistent with development objectives, otherwise a development bank will not be able to contribute to the development process of the country.

E. Some Economic Models Used by Development Banks

These are some of the models used for comparing costs and benefits of development projects:

1. Net Present Value
2. Internal Rate of Return
3. Benefit-Cost Ratio
4. Pay back Period
5. Cut-off Period
6. Cash Flow

Three of the most commonly used indices are the net present value, the internal rate of return, and the benefit-cost ratio (Baum and Tolbert, 1985, pp. 417-70).
1. Net Present Value (NPV)

The net present value of a project is the value of the benefits net of the costs, both discounted at the opportunity cost of capital (Baum and Tolbert, 1985 pp. 430-33). The benefits and costs defined in incremental terms are compared with the situation without the project. Two conditions must be satisfied if a project is to be acceptable on economic grounds. First, the present value of the net benefits of the project must be zero or positive; second, the present value of the project must be higher than, or at least as high as, the net present value of mutually exclusive project alternatives.

The net present value of a project is calculated by discounting the stream of future benefits back to the present, and then subtracting accumulated costs from this project at that same point in time.

\[
NPV = \sum_{t=0}^{n} \frac{B_t - C_t}{(1 + i)^t}
\]

Where

NPV = Net present value

B_t = Benefit in year t

C_t = Cost in year t

n = length of life of the project

i = discount rate

The following is an example of how to calculate the NPV.
We have a five year project, the machine is imported.

TABLE 2

Project Evaluation Example

<table>
<thead>
<tr>
<th>Year</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine</td>
<td>$500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>skilled Labor</td>
<td>$500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating Inputs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skilled Labor</td>
<td>$100</td>
<td>$100</td>
<td>$100</td>
<td>$100</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>Unskilled Labor</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td>Raw Materials</td>
<td>$200</td>
<td>$200</td>
<td>$200</td>
<td>$200</td>
<td>$200</td>
<td></td>
</tr>
<tr>
<td><strong>Output:</strong></td>
<td>$1000</td>
<td>$1000</td>
<td>$1000</td>
<td>$1000</td>
<td>$1000</td>
<td></td>
</tr>
<tr>
<td><strong>Net Cash Flow</strong></td>
<td>-$1000</td>
<td>$300</td>
<td>$300</td>
<td>$300</td>
<td>$300</td>
<td>$300</td>
</tr>
</tbody>
</table>

Now, assume the discount rate \((i) = 10\%\)

\[
NPV = \sum_{t=0}^{n} \frac{B_t - C_t}{(1 + i)^t}
\]

\[
= \frac{-1000}{(1+.1)^0} + \frac{300}{(1+.1)^1} + \frac{300}{(1+.1)^2} + \frac{300}{(1+.1)^3} + \frac{300}{(1+.1)^4} + \frac{300}{(1+.1)^5}
\]

\[
= \$137
\]

\(^1\)This example is from the class notes which I took from Dr. Patrick J. Gormely in fall semester, 1988.
At a discount rate of 10%, the NPV is equal to $137.

2. Internal Rate of Return (IRR)

Internal Rate of Return is the rate of discount that results in a zero net present value for the project. It is useful in comparing the profitability of a project with that of others in the same sector. It is calculated by a process of trial and error, or with a computer or calculator program. If the IRR equals or exceeds the opportunity cost of capital, it can be concluded that the project is justified.

Let us look at the example in Table 5 again.

Based on equation (9), as we use different discount rate, we get different NPVs as follows:

**TABLE 3**

<table>
<thead>
<tr>
<th>Discount Rate</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>$500</td>
</tr>
<tr>
<td>0.05</td>
<td>$299</td>
</tr>
<tr>
<td>0.10</td>
<td>$137</td>
</tr>
<tr>
<td>0.15</td>
<td>$6</td>
</tr>
<tr>
<td>0.20</td>
<td>-$103</td>
</tr>
<tr>
<td>0.30</td>
<td>-$269</td>
</tr>
<tr>
<td>0.40</td>
<td>-$389</td>
</tr>
</tbody>
</table>

When the discount rate is less or equal 0.15, the NPV is positive. If the discount rate is large than 0.15, we get

---

*The source is the same as footnote 1.*
negative NPV. Through trial and error, in this case we found that the discount rate which gives NPV of zero is 15.2 percent. (See Figure 1)³

FIGURE 1

IRR = 0.152

Suppose we have a predetermined social discount rate (d), if:

IRR > d, accept the project, or
IRR < d, reject the project.

3. Benefit-Cost Ratio

The benefit-cost ratio is based on a technique similar to net present value. Rather than subtracting costs from benefits, a ratio of the two is derived.

\[
\frac{B}{C} = \frac{\sum_{t=0}^{n} B_t}{\sum_{t=0}^{n} C_t} \left(1 + d\right)^t
\]

(10)

Where

- \(B\) = Benefits
- \(C\) = Costs
- \(d\) = discount rate
- \(t\) = year

The decision rule for this criterion is to accept a project if the benefit-cost ratio is greater than one, and reject otherwise. Ranking of projects based on the benefit-cost ratio will sometimes differ from that determined by net present value.

Except in instances of budget constraints that prevent funding of large projects, the net present value criteria provides the best guidance for project selection. Where funds are limited, the benefit-cost ratio is vital for selecting projects.

\[\text{The source is the same as footnote 3.}\]
III. Case study: Financing Small-Scale Enterprises by the China Investment Bank.

The Chinese banking system is highly centralized. In terms of the type of banks, there are only six banks in China: The People's Bank of China, which serves as the central bank, The Industrial and Commercial Bank of China, The Agricultural Bank of China, The People's Construction Bank of China, Bank of China, and The China Investment Bank. However, each bank has its own network that almost covers every corner of the country.

A. The China Investment Bank

The development of China's industry has been particularly hampered by a weak financial sector and lack of suitable intermediaries for delivering medium and long term finance to Small-Scale Enterprises (SSE) (World Bank Staff Working Paper, 1988. p. 1). In order to remedy this weakness, the Chinese government established a development bank--the China Investment Bank (CIB) with the help of the World Bank in 1981.

CIB is a state-owned enterprises, a legal person with the right of self-decision. A Board of Directors was set to act as the highest authority of the Bank. The authorized capital of CIB is RMB 4 billion\(^5\), of which paid-in capital by the Ministry of Finance in RMB 1 billion yuan. This latter

\(^5\)RMB is the abbreviation of Chinese yuan. The exchange rate of January 20, 1989, is $ 1 = RMB 3.71.
portion serves as daily business operating funds for CIB (China Investment Bank, 1982, p. 2)

According to its charter, the main function of CIB is to accelerate the country's industrialization, namely to raise construction funds from aboard by receiving loans from international institutions and through other channels and means so as to provide foreign currency and local currency investment credit for Chinese enterprises, in order to accelerate the country's industrialization.

Since its establishment, CIB's operation has proceeded smoothly and vigorously. First of all, CIB has received four loans in the aggregate amount of US $645 million from the World Bank; the fifth loan of $300 million is under negotiation. In addition, CIB has borrowed US $255 million in commercial loans from several foreign banks. These funds have in turn been lent to more than 500 SSE in China. Some of the products of these projects can be sold abroad to earn foreign exchange. CIB loans were mainly in textile and light industries, and a small portion went to electronics machinery and chemical industries. In terms of location, CIB's operation developed faster in the coastal provinces and municipalities. CIB also made direct investment, such as in the International Leasing Corporation, which is a joint venture with the Japanese (China Investment Bank, 1987, p. 4-9).

Secondly, CIB was the first one to use the project
appraisal and evaluation method in China. With the help of the World Bank experts, CIB compiled in 1982. The Appraisal Manual for Industrial Credit Projects. In the manual, the appraisal and evaluation criteria for CIB projects are the same as those discussed in Section II of this report. A proposed project will not be approved for loans until strict appraisal has been made by CIB on the basis of a feasibility report that ascertains that the project is technically and financially sound and economic benefits exceed cost.

Thirdly, CIB has expanded its branch network, developed professional staffs and strengthened contacts with foreign banking institutions. CIB has 20 branches at the provincial level, and 31 branches and sub-branches below the provincial level, each with a qualified staff of economists, financiers, and engineers, 70% of whom are university and college graduates. The World Bank has held several seminars on project appraisal, project implementation and supervision for CIB staff members.

B. Financing Small-Scale Enterprises by China Investment Bank

The following characteristics are typical of the SSE financed by the CIB.

1. They have little access to commercial credit, as often they have no prior record of borrowing and repaying loans;

2. They have problems with raising equity;
3. They lack adequate experience;
4. They experience a critical period in their second and third years;
5. They underestimate the possibility of exceeding their budgets; namely they need loans.

All these characteristics should be kept in mind when designing a financing program responsive to the needs and aspirations of the small industry enterprises. CIB's lending programmes have taken into account as many of the problems facing small enterprise development as possible. Therefore CIB's lending programme contains the following features:

1. Working-capital. Working capital should be packaged into loans for all small enterprises, to provide for peaks and lows of working capital requirements. Disbursements of loan proceeds by the development banks must be closely managed to avoid the diversion of funds which is common to small enterprise projects. These projects are typically run as self-employment schemes and can involve the entrepreneur's family and personal finances. CIB has considered the establishment of credit lines instead of direct loans to finance working-capital requirements of small firms.

2. Equity financing. In evaluating projects where equity poses a problem, CIB has asked other institutions to participate in the project. However, CIB feels that a separate organization should be formed to provide risk capital to small enterprises. It is significant that in some CIB-
financed small enterprises which are distressed and come to CIB for restructuring their loans, CIB has tried, whenever it made sense, to convert part of the firm's arrears, particularly the interests and other charges into equity.

3. Project Loan. CIB provides project loan for many SSE. The current CIB lending system requires a comprehensive evaluation of the project proposed for financing. This entails time to process. In order to simplify matters, CIB has defined priority investment areas based on viability and economic desirability. Projects belonging to industries previously ascertained to be desirable are appraised to determine viability. The project loan works very well.

4. Contingency allowances. CIB has initiated a contingency programme whereby there is speedy approval of cost-over-run loans up to a maximum of 15 per cent. The aim is to facilitate project implementation. Therefore, the contingency loans are approved at the time the original loans are sent to decision-makers for final action. The implementing department determines whether such loans are appropriate and should be disbursed.

5. Supervision and Management Assistance. In addition CIB provides consultant services to its SSE through its programme of project supervision. From time to time, audits, project visitations and management training seminars are conducted for the benefit of the small enterprises. CIB staff take part in the feasibility study for the project and
commercial negotiation for purchasing the equipment. In addition, CIB assists in solving the problems that occur during the period of project design and construction. All this assistance helps to accelerate the fulfillment of the projects.

CIB-assisted SSE projects are closely monitored under the supervised credit programme. Requests for additional financing or restructuring are closely studied. Accounting manuals and management brochures are freely provided to assist the SSE.

New projects seeking CIB financing are evaluated on both project viability and management ability, with increasing emphasis on the latter. The assessment of the applicant, however, is not limited to his apparent knowledge of the business operations, but includes an evaluation of his credit standing, his past performance, training and experience. In the same manner, evaluation of expansion projects includes an extensive review of past performance.

Since its establishment, CIB's financing program has responded to the needs of the SSE sector. To date, CIB, with its network of 20 branches, 31 sub-branches and agencies, through funding from the World Bank, has financed over 700 projects involving over $645 million. Table 4 and 5, figure 2 and 3 show the CIB loans and number of Projects financed by CIB.
TABLE 4
Cumulative China Investment Bank Loans, 1983-86

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount (million)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US$</td>
<td>RMB(Local currency)</td>
</tr>
<tr>
<td>1983</td>
<td>380</td>
<td>1,030</td>
</tr>
<tr>
<td>1984</td>
<td>1,660</td>
<td>3,970</td>
</tr>
<tr>
<td>1985</td>
<td>3,430</td>
<td>6,610</td>
</tr>
<tr>
<td>1986</td>
<td>4,650</td>
<td>8,180</td>
</tr>
</tbody>
</table>


TABLE 5
Cumulative Number of Projects
Financed by CIB, 1983-86

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>24</td>
</tr>
<tr>
<td>1984</td>
<td>139</td>
</tr>
<tr>
<td>1985</td>
<td>349</td>
</tr>
<tr>
<td>1986</td>
<td>407</td>
</tr>
</tbody>
</table>

Cumulative China Investment Bank loans

1983–86

(Thousands)


Figure 2
Cumulative Number of Projects

Financed by CIB, 1983–86

![Cumulative Number of Projects Graph](image)

Figure 3
IV. Summary and Conclusion

Development Banks have become significant both quantitatively and qualitatively. Their operation has proved to be a highly efficient means of assessing investment needs and proposals and of allocating investment resources. Not every development bank will provide assistance to SSE, but those that contribute to meeting the needs of small enterprises contribute significantly to economic development within the developing countries. Existing small-scale enterprises (SSE) are recognized by their many contributions in the areas of employment and production.

However, development banks have received limited attention from economists. It is difficult to find journal articles on development banking. This paper is a summary study on development banking; more work should be done by both development banking practitioners and the economics profession.
BIBLIOGRAPHY


Kamaluddin, A H M. *Financing Small-Scale Industrial


DEVELOPMENT BANKS AND THE FINANCING OF SMALL-SCALE ENTERPRISES, WITH SPECIFIC REFERENCE TO THE CHINA INVESTMENT BANK

by

SHENHUA WANG

B.A., Northeast University of Finance and Economics, Dalian, China, 1982

AN ABSTRACT OF A MASTER'S REPORT

Submitted in partial fulfillment of the requirement for the degree

MASTER OF ARTS

ECONOMICS

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1989
Abstract

Development banks are financial institutions (located within developing countries) that specialize in providing medium and long term financing for local industries. Development banks obtain their own financial support, with which they fund local projects, from the World Bank, regional development banks (like Asian Development Bank), some other international organization (such as UNIDO), governmental soft loan and private sector bank loans from industrialized countries.

Most development banks finance small-scale enterprises (SSE). SSE are firms with fewer than 100 employees. SSE have a vital role to play in a developing economy. SSE are generally more labor-intensive than larger industries, have an advantage in meeting local demands, can meet highly specialized or individualized demands, provide a seed-bed for entrepreneurial talents and might themselves become large industries at a later stage of economic development. In addition to making loans, development banks assist SSE in marketing and business management.

Development banks have criteria for channeling funds to SSE. To obtain funding, the business activities of the SSE must promote the development objectives of a country. The expected receipts (plus social benefits, such as education or transportation) must exceed costs of a proposal. Moreover the managers of the SSE must demonstrate that they have the skills to operate a successful business.
The last part of this report is a case study: financing small-scale enterprises by the China Investment Bank (CIB). CIB has provided working capital, equity investment, project loans, contingency allowances and supervision and management assistance to SSE in China.