Model for the Evaluation of Project Funding in Emerging Markets

by

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MODEL FOR THE EVALUATION
OF PROJECT FUNDING
IN EMERGING MARKETS

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE SCHOOL OF ADMINISTRATION AND MANAGEMENT
OF COLUMBIA PACIFIC UNIVERSITY
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

BY

CARLOS CERRATO

DECLARATION OF AUTHENTICITY

I declare that all material presented to Columbia Pacific University is my own work, or fully and specifically acknowledged wherever adapted from other sources. I understand if, at any time it is shown that I have significantly misrepresented material presented to the University, any degree or credits awarded to me on the basis of that material may be revoked.

Student's Signature — Date 8-16-99

Dr Nirmalendu Debnath - Faculty Mentor - Signature — Date 8/31/99

Dr Tesfaye Ketsela - Dean, A & M - Signature — Date 9/8/99

Signature of Member of Academic Counsel — Date 9/9/99

Signature of Member of Academic Counsel — Date 9/9/99

Signature of Member of Academic Counsel — Date

ACKNOWLEDGEMENTS

The evaluation of International Project Funding, Refinancing and Acquisition Finance for the Private Sector in Emerging Markets has been the dominant feature of my professional life for more than a decade. This intense and greatly demanding activity/task has provided me with lots of challenges and opportunities.

As a Project Appraiser and Analyst in specialized Financial Trusts in Vaduz – Principality of Liechtenstein – Europe, I have been actively involved for many years, in the assessment and verification of a great number of projects (agro-industry, infrastructure, manufacturing and commerce, natural resources property and tourism, etc.) in need of adequate debt finance.

This gained expertise allowed me to cover thoroughly the pertinent aspects that form part of the model discussed in my dissertation.

The Roles achieved in working for these Trusts turned out to encompass more than just being senior contributors. They made a significant grant to the conceptualization and structure of this Dissertation and provided a backbone of encouragement and support. My deepest gratitude goes to them.

Thanks and appreciation to my wife Elisabeth, for her patience, strength and sense of humor and for countless hours of technical help. Thanks also to many friends and associates who offered their valuable time and insights.

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A B S T R A C T

Funding private projects in emerging markets - in a safely manner - requires a thorough evaluation and analysis of several aspects that are constituent to the project itself, to the specific country where it is located, and to the project owners.

The author has studied the functioning of Financial Markets in developing countries for several years, compared them to International Financial Markets, and has come to the conclusion that the contributions made in the past do not cover all the information required in order to judge and secure the viability of projects in these countries.

By developing a model and researching its components breakdown, the author has attempted to fulfill all the requirements necessary to accomplish this purpose.

The methodology used was basically a result of a detailed research throughout years of experience, to verify and analyze documentation related to different types of projects recommended for funding located in several developing countries. The collected data during the verification process of each project have been significant to their outcome and have assisted me for the development of the model presented in this Dissertation.

In addition, related studies by professionals in the field (Bankers, Economists, Financial Analysts, etc.) have been examined and partially incorporated in this Dissertation in order to make a significant paralell to the components of the model.

CHAPTER 1

INTRODUCTION

In almost all developing countries the stage of growth varies considerably due to changes in their political environment. Consequently, in order to secure the viability of funding in these countries, a detail research and investigation are imperative.

However, it is important to point out at this stage - to differentiate from less developed countries - that the author refers to developing countries, as the ones that maintain at present time a strong economic growth, aim to increase their industrial output over the next decades, and from whom new industrial investments can be expected on a massive scale.

The main objective of this Dissertation is to develop a model that will assist lenders, investors and project owners to safely and succesfully accomplish the realization of projects and project funding in the private sector of emerging markets.

The unique contribution of developing this model is precisely to set specific priorities to this type of projects, in order to study the funding alternatives, from the viewpoint of the developers/promoters or the lenders/investors.

This model will serve as a tool for providing potential investors, promoters and financiers with the information required to decide whether to undertake an investment in a developing country, and how to finance such a project.

The significance of using this model, as contrary to other types of investment appraisals, is that the analysis of its major components does not limit itself to answering questions raised by investors/project owners, but also indicates and highlights any other critical impacts that would have to be considered when appraising a project.

While the interest in future net benefits is common for each party participating in a project (lenders, investors, project owners, management companies, etc.), the expected benefits

may differ considerably between them and may also be valued differently. To cope with this situation has been the intention of developing this model.

This Dissertation is divided into twelve additional chapters in which the various features of the model are reviewed, their importance are critically examined, and presented in a case study.

On the basis of experiences in analysing projects in developing countries - the author has learnt that a detailed verification of all specific fields concerned with the project and project owners is required in making the right investment decisions.

Feasibility studies - discussed further and throughout this Dissertation - are used to examine broadly all the economic aspects and alternatives of a project, such as product specifications and demand, work programme, type of technology and equipment, labor force, etc..

Since the evaluation of project funding requires careful planning at its early stages, the checklist to be met for each project should contain the following items[1]:

a) A satisfactory feasibility study and financial plan have been prepared.
b) A market exists for the products, commodity, or service to be produced.
c) The contractor is experienced and reliable.
d) The operator is experienced and reliable.
e) Management personnel are experienced and reliable.
f) A stable and friendly political environment exists; licenses and permits are available.
g) There is no risk of expropriation.
h) Country and sovereign risk are satisfactory.
i) The key promoters have made an adequate equity contribution
j) The project has value as collateral.
k) Satisfactory appraisals of resources and assets have been obtained
l) Adequate insurance coverage is contemplated.

[1] Nevitt, P., 1989, Project Financing , EUROMONEY/DC, Gardner, London, 171.

m) The project will have an adequate Return on Equity, Return on Investment and Return on Assets.

n) Inflation and interest rates are realistic.

Other factors, such as the stability of the government, per capita income and economic growth are equally important for international lenders. An analysis and diagnosis, covering the socioeconomic, technological and governmental factors must be undertaken by lenders/investors to anticipate opportunities or avoid threats, and develop strategies for different scenarios.

Probably the most important factor for private investors is the state of the local economy, which would affect the availability of capital to invest overseas[2].

In order to successfully achieve a project funding a thorough study of all the documentation pertaining to the project owner has to be assessed. The author has developed a model which will assist lenders to evaluate project funding in Emerging Markets.

This Dissertation discusses various stages of the model including the projected financial results and analysis.

Chapter 2 reviews critically the most important studies which are relevant to the preparation of this Dissertation.

Chapter 3 covers the presentation, background and history of the project, as well as its present stage, providing an overview of its location, site selection, investment climate, etc..

Chapter 4 introduces a specific analysis of the owner of the project - usually the foreseen borrower of the loan to be funded.

[2] Frieden, J., 1987, Banking in the World, Lenders and Borrowers, London, 80.

This analysis covers the following areas of specific interest:

- presentation of the company with history, corporate structure, activities, interest,
- memorandum of association, articles of incorporation, certificate of registration, and good standing,
- bank references, credit information/references, audited financial statements,
- minutes and resolutions, legal opinions, etc.,
- equity/financial responsibility.

Chapter 5 covers the Market Survey and all its main components. It starts with a description of the product or service to be offered. It covers the market segmentation/penetration, demand and supply analysis, competition, together with a statistical analysis to estimate and justify the revenue projections.

Chapter 6 is based mainly on the strategy and programme to be implemented for the operation/sale and marketing of the project or of the project's product. Cost of promotion/advertising, as well as sales/income forecasts are also discussed in this Chapter.

Chapter 7 focuses a concise explanation of the documentation related to the land/property necessary for the project, and which usually forms part of the hard equity offered by the project owner/foreseen borrower. Relevant documentation is studied, such as appraisal/valuation reports, land registries, etc..

Chapter 8 analizes existing options, contracts, agreements and commitments, or any other pertinent document/study, etc. which have direct or indirect influence on the project/loan application.

Chapter 9 addresses the presentation of the main involved companies in the project and discusses their importance. Companies and professionals, such as the architects, planners, general contractor, operating company, management/sales company, appraisers, advisors, lawyers, chartered accountants/CPA, etc..

In this Chapter also the foreign investment and exchange regulations and the approvals, permits, authorizations, etc. necessary for the realization and operation or sales of the project are discussed. Also certain risks and legal aspects are addressed.

Chapter 10 pays more attention to the basic and significant aspects of the technical side of projects, including construction cost estimates, the project implementation planning schedule, drawings/plans, design, layouts, technology, etc..

Chapter 11 provides a view of one of the most important aspects for the success of the project funding, which is the Financial Analysis, including the Projections and Debt Service.

In this section a detail analysis is accomplished by evaluating the breakdown of the total project cost, the capital structure (source and uses of funds), loan required and respective drawdown schedule, sales estimates/projections, budgeted profit and loss statements, projected cash flow statements, projected ratios, break even and sensitivity analysis, etc..

Chapter 12 includes a typical case-study which helps establish the significance of the major components of the model in the realization and funding of a project in a developing country.

Chapter 13 is the conclusion, which is a summary of the components of the model, and is discussed in order to demonstrate what are the basic and most important elements that are required, not only to accomplish a safe project funding in the private sector of emerging markets, but also to select private projects that are technically, financially and economically sound.

Finally, in the summary the components of the model are clearly defined, as well as their interrelationship, in order to assist the analyst to a complete economic project evaluation.

CHAPTER 2

LITERATURE REVIEW

The studies first published by the United Nations Industrial Development Organization (UNIDO) in 1978 were designed to provide developing countries with a tool for improving the quality of investment proposals, and to contribute to the standardization of industrial feasibility studies, which had often been found to be both incomplete and ill-prepared.[3]

The results of these studies were perhaps the early contribution to the improvement in feasibility studies for industrial projects which have led to appreciable foreign investment and funding in developing countries. Eventhough, the UNIDO's publications focus primarily on a strategic approach to investment, they devote particular attention to industrial projects assisted by local governments as part of national development, and financed mostly by financial institutions at the state and national levels or international funding facilities that exist for the financing specifically of industries in developing countries. Some of these, such as the World Bank, including the International Development Association, the International Finance Corporation, the International Investment Bank of the Council for Mutual Economic Assistance, etc. operate on a world wide scale.

This research aims specifically to discover the studies and mode necessary for the realization of different types of privately owned projects in developing countries and funded by international syndicated loans.

In the specific terms of economic project evaluation and financing the author has chosen and reviewed hundred of articles, books and academic works that deal in some way in these fields.

Those cited here and throughout this dissertation were chosen for several reasons: some present complete systems of economic project evaluation, some present partial systems, some

[3] Behrens, W. & Hawraneck, 1994, Manual for the Preparation of Industrial Feasibility Studies, UNIDO, Vienna.

present analytical tools important to economic project evaluation and funding, and some present studies oriented to specific types of projects.

Bruno[4], in his thesis of the rate of effective protection as measures of a project's economic viability, outlines the indicators that can be useful in the preliminary screening of project proposal. This is done by using certain ratios, however the indicators used are partial since they are based only on data for a single year, and thus ignore the pattern of benefits and costs over time.

Other academic works published in recognized professional journals have also contributed to certain extent to the elaboration of this dissertation, such as the works of Balassa[5], Baldwin[6] and Hertz[7].

Balassa's work focused widespread attention on the effective rate of protection and its potential use as measure of the economic productivity of projects. Baldwin, on the other hand concentrated his work in a useful discussion of discounted cash-flow analysis, while Hertz reasonably completed a treatment of basic concepts of risk, probability and sensitivity analysis in project evaluation.

The author has evaluated the research done by these scholars and eventhough they are quite complete; the presented statistical tools can only be applied to certain degree to projects in developing countries. The reason behind is that certain issues have not been contemplated, such as different accounting systems, local regulations, political or environmental risks, etc..

Other sources reviewed by the author, such as the books written by Adler[8] or Gittinger[9], which deal with the evaluation of a variety of projects, have also been helpful in the appraisal of projects, but are only limited to certain type of projects.

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[4] Bruno, M., 1992, Domestic Resource Costs and Effective Protection, Journal of Political Economy, New York, 16-33.
[5] Balassa, B., 1988, Effective Tariffs, Domestic Cost of Foreign Exchange and the Equilibrium Exchange Rate, Journal of Political Economy, New York, 348-360.
[6] Baldwin, G.B., 1989, Discounted Cash Flow, Finance & Development, New York, 30-35.
[7] Hertz, D.B., 1984, Risk Analysis in Capital Investment, Harvard Business Review, 95-106.
[8] Adler, H., 1981, Economic Appraisal of Transport Projects: a Manual with Case Studies, Indiana University Press, Bloomington, 205.
[9] Gittinger, J.P., 1982, Economic Analysis of Agricultural Projects, Johns Hopkins University Press, Baltimore, 221.

Adler's book - for example - is quite useful for those wishing an extensive discussion of the appraisal of transport projects, while Gittinger's is a basic applied guide to agricultural project appraisal.

The purpose of developing a model for the evaluation and financing of projects in the present dissertation is basically to be used for all different types of private projects.

One of the major references in the literature on project evaluation and financing, since it presents such a thorough discussion of the basic issues involved, is perhaps the book written by John R. Hansen[10], a member of the staff of the World Bank.

While it does establish a framework that brings together the most important aspects of project appraisal, its primary focus is on the economic and social benefit-cost analysis of projects.

The reader is referred only to basic references on the technical and financial appraisal of projects at appropriate points.

Although risk analysis, which focuses on the probability of realizing certain rates of return, is an important tool of economic project analysis, it is dealt in this dissertation to demonstrate the way in which it may be combined with the components integrated in the developed model, and taken into account other risks involved specifically in projects located in developing countries.

In addition, the allocation of financial resources - which constitutes an obvious and basic prerequisite for any project realization - is discussed and an assessment of a secured project financing is determined in the developed model.

One approach to pure project financing is that the lenders will look to the project and its cash flow to repay the loan.[11] However, in secured and full recourse syndicated loans, which are the principal topic of funding analyzed in this Dissertation, the lender is secured by taking first mortage on the project and retains recourse to the company behind the project and its major

[10] Hansen, J.R., 1982, Guidelines for Project Evaluation, United Nations Publication, New York.
[11] Donaldson, T.H., 1989, Credit Risk and Exposure in Securitization and Transactions, London, 75.

shareholders, which means that the lender can sell the project and respective assets, and has recourse to the project owner/borrower's assets, if the transaction being financed fails.

Anyhow, the approach to pure project financing addressed the aspects of market risks which in turn are necessary to analyze for the realization and funding of any type project and in any location. These market risks are of utmost importance, specially when new technology is used in a project, since lenders are reluctant to support projects that use new technology, for fear of delays, overruns, etc..[12]

As Behrens and Hawraneck[13] outline it, the market opportunities that can make the project feasible, as well as the market risks endangering it are the critical variables of the project. They provide the bases for the development of the project strategy and marketing concept, as well as for any decision concerning the final choice of the scope of the project, human and material resources, location, engineering and technology, management, organization, and the financial evaluation and appraisal of the investment project.

In order to examine these market risks and opportunities, the author has read different market studies, and points out the importance throughout the dissertation of these studies in order to obtain all data necessary for an investment decision.

One standard study which demonstrates the importance of the market potential in the success of a project is the typical Hotel project, where a market penetration analysis is necessary to capture the market demand from different market segments.[14]

In other types of studies, but still of the same nature, the analysis focuses in the operational stage of the project, since the project cannot even begin to provide for repayment of its funding until it is operational.[15]

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[12] Chance, C., 1992, Project Finance, London, 43.
[13] Behrens, W. & Hawraneck, 1994, Manual for the Preparation of Industrial Feasibility Studies, UNIDO, Vienna.
[14] Pannel Kerr Forster Sevices Ltd., 1991, Study of the Potential Future Market Demand for a proposed 4 Star Hotel, Hong Kong, VII-I.
[15] Donaldson, T.H., Morgan, J.P., 1992, Project Lending, the Traditional Approach, London, 3.

The state of the local economy where projects are funded is also a very important factor for private investors and should form part of market studies.[16]

Financiers when investing in private projects in developing countries are very concerned about the guarantees behind the project. In these specific cases the project owner must offer corporate and personal guarantees, since there are - in most instances - no governmental guarantees in projects privately owned.

Therefore, the detailed analysis of the financial status of the guarantors is imperative. Lenders, must be provided with a guarantee from a satisfactory credit, which means the parent holding company [17] including third party guarantors.

The reputation and credithworthiness of the project owner, as discussed throughout the Dissertation, is critical to the funding of a private project. As explained by Tinsley[18], some large companies feel that they cannot "take a walk" from a project that is project financed because it has their name associated with it.

The author agrees with Tinsley's explanation and must add that when companies look at long-term debt-service coverage - which is the case in most project financings - they should make sure that all long term loans and the related financial expenses can be repaid in the agreed yearly instalments without depriving the firm of needed funds.

Some lenders rely also in credit's rating when it comes to analyze the applicant for a loan, and search for credit agencies and ratings criteria, such as Standard & Poor's short term/long term ratings.[19]

Some of these agencies, also called Mercantile Agencies, has been researched by the author and some examples of their rating criteria are outlined in this dissertation.

Nevertheless, as Donaldson[20] put it, as long as the borrower's financial standing remains sound, it will meet its obligations.

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[16] Frieden, J., 1989, Banking in the World, Lenders & Borrowers, London, 80.
[17] Nevitt, P., 1989, Project Financing, EUROMONEY/DC, Gardner, London, 37.
[18] Tinsley, R., 1996, Risk Analysis and Allocation, EUROMONEY Publications, London, 6.
[19] Fight, A., 1996, The Borrower's Viewpoint, EUROMONEY, Gardner Workbook, London , 25.
[20] Donaldson, T.H., 1989, Credit Risk and Exposure in Securitizations and Transactions, London, 4.

Another viewpoint which is always of utmost importance are the legality aspects of the project. The assistance of legal advisers is essential for both the lender, and project owners. Specific areas, as Chance[21] pointed out, should be investigated in order to assess the structure of the financing and the overall allocation of risks and recourse between the parties involved.

There has also been research as to the type of contracts and titles which form part of any project financing.

For instance, reservation of title[22] which is a common concept in some Continental European Countries, or project contracts and financing agreements, well defined by Tinsley[23]; as well as by Vinter.[24]

The author has learnt - by evaluating projects for funding for several years in developing countries - that a thorough treatment of legal topics is essential in these emerging markets in order, not only to achieve a successful investment, but also within the context of international business including trade licensing and investment.

Schaffer, Earle and Agusti[25] point out that many developing countries place strict controls over trade, licensing and foreign investment. Restrictions on investment, for instance, might include local participation requirements, and restrictions on the percentage of foreign ownership allowed.

They may also require that the foreign firm train workers, utilize local management, build water treatment and sewage facilities, pay taxes, export a certain percentage of finished products, reinvest profits in the host country, introduce modern technology and products to the host country, and respect the cultural identity of its people.

Much has been written about Project Financing, as well as projects in developing countries as an overall topic, which has contributed partially to the purpose of this Dissertation.

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[21] Chance, C., 1994, Project Finance, FFR Books, London, 64.
[22] Donaldson, T.H., 1989, Credit Risk in Securitization and Transactions, London, 72.
[23] Tinsley, R., 1996, Legal and Documentation Issues, EUROMONEY/DC, Gardner, Workbook, London, 2.
[24] Vinter, G., 1995, Project Finance, A Legal Guide, Sweet & Maxwell, London, 29-30.
[25] Schaffer R., Earle B. & Agusti F., 1999, International Business Law and its Environment, West Publishing Company, New York, 344.

Blum[26], Coles and Wexer[27], for example, studied the existing regulations in most foreign countries, specifically in emerging markets and pointed out some of the restrictions in investing in these countries and the solutions on how to avoid them or circumvent.

Chance[28], on the other hand, listed the main risks involved in funding projects in developing countries, including political, environmental and legal risks; while Donaldson[29] identified those risks arising from the geological, geophysical, climatic and similar factors of the project site.

The author has encountered - while evaluating projects - that in many occasions certain local restrictions, taxes, incentives, etc. could also vary considerably for different areas in the same country and may be a significant locational determinant in some cases. It is recommended in such cases that all fiscal and legal regultions and procedures applicable for alternative location are defined at a preliminary stage.

The technical aspects of the project have been addressed in detail in the studies conducted by Behrens and Hawraneck[30], which includes practically all the engineering design, specifications and construction cost, technology cost, etc., necessary for the realization of industrial projects.

However, it must be pointed out that the author's research in this field has been quite comprehensive and has included in the respective Chapter other information pertaining to the technical area which could be applied for almost all types of projects and not necessarily for industrial projects. Basically, the research in question has been performed by verifying different types of projects in developing countries and as a result outlining the different studies that are required to avoid risks in this field, which could increase the cost of the projects.

Finally, in the overall financial analysis, the input of Frieden[31] regarding his relation of rate of return and cost of debt service, as well as the conditions necessary for the confident

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[26] Blum, G., 1997, The Challenge of Change - A Rough Road ahead, Project, SWISS Bank Corp., Basel, 2.
[27] Coles, I. & Wexer, T., 1996, Project in the Emerging Markets, Project Finance Yearbook, U.S.A., 50.
[28] Chance, C., 1992, Project Finance, London, 45.
[29] Donaldson, T.H., Morgan, J.R., 1992, Project Lending, the Traditional Approach, London, 204.
[30] Behrens, W. & Hawraneck, 1994, Manual for the Preparation of Industrial Feasibility Studies, UNIDO, Vienna, 180, 181.
[31] Frieden, J., 1987, Banking in the World, Lenders and Borrowers, London, 125.