

Project Bond market: an empirical analysis on spread in developing countries

ABSTRACT

The topic of this research is one of the less analysed aspects of project finance in literature: project bond market and the variables which influence the spread. The analysis develops two aspects: the theoretical and the mere empirical one.

The theoretical aspect is divided in four chapters that analyze this particular operation under different characteristics. The first chapter deal with the birth of project finance during the Devon's mine opening in twentieth century, the following and countless uses of this tool in the history and the rebirth in the current form thanks to the PURPA (US) at the end of seventies. The main characteristic of project finance is the capacity of the project to convey and make verifiable ex-ante the cash flow capacity to cover the operative costs, loan interests and eventually the stock dividends. The total autonomy of the project and the economical and legal isolation are guaranteed through the creation of the special purpose vehicle which is in the centre of a complex network formed by all participants, as the sponsors, the financiers, the suppliers, the buyers, the external consultants, the insurance companies and the local governments. Project finance is not only used to create private projects, but it is also used for the public private partnership.

In the second chapter there is a wide description of the different steps of the operation, paying particular attention to the existing contracts between players. In the first step there is the creation and identification of the project by the sponsors, who immediately start to contact the potential co-participants in order to develop the structure of the project. Afterward the economic and legal documents are issued. The main economic document is the information memorandum, which has the objective of representing overall the structure of the project.

One of the main sections of the information memorandum is the one related to the feasibility study and sensitivity analysis. Thanks to them it is

possible to identify the feasibility of the operation and to study its elasticity according to the different scenarios hypothesized.

The security package represents the whole legal documents to ensure the equal split of risks in the operation. The main legal documents in a project finance operation are the finance documents, the credit and project agreements. The credit agreement, which is a finance document, is one of the most important, it is the contract stipulated between the SVP and the sponsors in which the duties between contractors are disciplined in details. Among the project agreements there are the construction contract, the management and maintenance contract, license fee contract, the contracts with suppliers and clients.

The last step of project finance is related to the built and management of the operation.

In the third chapter there is a detailed description of financial sources. In the financial structures of a SVP there are numerous sources. In general the sources can be divided in equity and loans, the equity is represented by the capital invested by the sponsors and by some professional investors to obtain a high profitability. The loans could have different form according to their seniority and forms, among them there are the syndicated loans, the bonds, export credits and collateral securities. In addition to equity and loans, there is mezzanine debt. Finally there is a description of the leasing as an alternative financial source and the difference between project finance and project leasing.

The last theoretical chapter deals with project finance in developing countries. At the beginning the role of local governments in project finance is described. The second paragraph deals with the role of ECA and how they can guarantee the feasibility of those projects also in those countries where the excessive risks could prevent any international loans. In the last part there is an analysis of the emerging countries and of the special tools as loans to obtain international funds from multilateral institute as, for example the World Bank and the BEI.

The last chapter of this study deals with the mere empirical research. The sample studied is made of 145 project bond issues, of which 36 are related to developing countries. The mean of the issues is about 288 \$ millions . The highest issue is 1,5 \$ billion and the lowest is 1,2 \$ million. The mean maturity is about 16,5 year; the maximum maturity is 38 years, while the minimum is 5 years. The mean spread is about 185 basis points, while the issues whit

collaterals are 46. In the power sector there are 87 issues, in the oil & gas sector 26 issues, in the transport sector 17 issues, in the water sector 5 issues, in the chemical sector 2 issues and, finally, in the other sector 8 issues. The rating with the highest frequency is Baa3..

The results of this study show that in the base model two variables are significant, the maturity and rating. With the introduction of some dummy in the model the results do not change, except for the emerging countries dummy, which affects the spread of 61 basis points.