

Project Finance (MBA)

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Introduction

Project Finance (PF) has become a popular approach to the financing of large investment projects in the USA, the European Union, and emerging economies. These are mostly infrastructure investments such as toll roads, airport terminals, telecommunication systems, satellite TV systems, power stations, mines, petrochemical enterprises, pipe lines, etc. Nevertheless it can also be applied to smaller and simpler investments, for example a hotel or medium size production line development.

In PF financiers receive the payback (principal plus interests) only from the cash flow generated from the project itself, i.e., from the company created specially to carry a specific project (*single purpose company* or *special purpose vehicle*), without any guarantees from the investor. In this situation, the financier usually has little or no recourse to the non-project assets of the borrower or the sponsors of the project

Objectives

These lectures are aimed to highlight the most important aspects of *project financing*, which requires skills to evaluate the project, prepare the feasibility study and analyze the project sensitivity to different variables, determine the appropriate capital structure and the risk mitigation. The course also presents an opportunity to enhance and consolidate students' knowledge on finance.

After attending the course, you should be able to:

- Identify potential projects, the participants that should be involved in the financing and the risk allocation between participants
- Analyze the syndication strategy for large-scale investments and structure its financing
- Elaborate advanced analytical tools to assess risks & returns
- Evaluate the role of governments in large projects, both as investors and as customers
- Recognize the advantages and disadvantages of a PF, depending on the situation and context
- Be aware of the non-quantitative nature of some investment decisions

During the course, we will also refresh some basic financial concepts as the cost of capital, valuation methods, exposure to exchange rates, and cash-flow projections.

Methodology

The course is based on a mix of case studies and lectures. Active participation in class discussions is strongly encouraged.

Preparation sheets show detailed instructions for each session, with reading requirements of cases, technical notes, and articles. Supportive spreadsheets will be provided for most cases. To minimize workload, I suggest you to follow the questions posted in the preparation sheets.

Office hours: Whenever needed—after classes, by phone, email, or appointment.

Technical requirements: Cell phones and laptops shut off and down. You can survive with just an old-school calculator (please, bring one to class).

Evaluation of student's performance

Students will be evaluated on the basis of:

- Middle-term paper: a 4-pages article, to be delivered at session #5 — **20%** of the final mark
- Final paper, to be delivered at session #5 — **30%** of the final mark
- Final exam (session #10) — **30%** of the final mark
- Participation — **20%** of the final mark

Students are required to achieve a minimum of **60% (C)** to pass the course.

Course Outline

Session #1: *IESE notes FN-304 & FN-407*. Topics: definitions related with PF, participants and development and operating phases. Risks specific to PF and their management (risk allocation). Structured finance: debt, quasi-debt, subordinated debt, leasing.

An Overview of PF – 2001 Update (HBS note #N9-202-105), An Overview of the PF Market (HBS note #9-200-028) & PF Research, Data and Information Sources (HBS note #9-201-041). Possible applications in Poland (several sound examples). Techniques for case solving for future lectures.

Vet Center: Investment Analysis – IESE case F-641-E. Teaching purpose: to practice present value calculation and understand the proper use of various methods such as internal rate of return (IRR), modified internal rate of return (MIRR) and net present value (NPV) for capital investment decisions.

Session #2: *BP Amoco (A): Policy Statement on the Use of Project Finance – HBS Case #9-201-054*. Topics: the integration of two finance groups following a merger and the subsequent attempt to create a new policy statement regarding the use of project finance. Teaching purpose: to illustrate the cost and benefits of using project finance instead of internal, corporate funds to finance new capital investments. The case is intended to serve as an introduction to the field of project finance and to generate a discussion of the economic benefits of using project finance.

Session #3: *Airbus A3XX: Developing the World's Largest Commercial Jet – HBS cases #201-028 & #201-126*. Topics: assessment of two sets of forecasts and whether to proceed with the launch given the size of the investment and the uncertainty in long-term demand. Teaching purpose: to illustrate the basic economics of large projects and the complexity in estimating even top-line demand for products with useful lives of up to 50 years. The case presents the role of governments in large projects, both as investors and as customers and explores the competitive dynamics between a monopolistic and a potential entrant in which entry costs exceed \$10 billion.

Session #4: *Poland's A2 Motorway – HBS case #9-202-030*. Topics: analysis of the deal structure and if the major risks have been identified, assessed, and mitigated in such a way that the senior lenders are adequately protected. Teaching purpose: to provide a framework and a set of guiding principles governing risk management in project finance and to illustrate the stages

(identification, assessment, and mitigation of project risks) and the goals (efficiency and effectiveness) of risk management.

Session #5: *Public-Private Partnerships in infrastructure projects* (lecture).

Session #6: *Calpine Corporation: The Evolution from Project to Corporate Finance – HBS case #9-201-098*. Topics: high-growth strategy and attempts to finance investment in new power plants. Teaching purpose: to describe what project finance is, how it differs from corporate finance, and why firms use it to finance capital investments (pros and cons) and to illustrate the profit opportunities in the U.S. power industry created by changes in technology and regulation and the importance of adapting a company's financial strategy to support a new, high-growth competitive strategy designed to capture these fleeting profit opportunities.

Session #7: *Chase's Strategy for Syndicating the Hong Kong Disneyland Loan (A&B) – HBS cases #N9-201-072 & #N9-201-086*. Topics: analysis of the syndication strategy for this HK\$3.3 billion (US\$423 million) project loan. Teaching purpose: to illustrate 1) the process, participants, and economics of syndicated lending (a market that now exceeds \$2 trillion annually); 2) the key issues in designing a syndication strategy (e.g. how many banks to invite, which banks to invite, what fees to offer, and what share of the loan to hold in the end); and 3) the importance of relationships in syndicated lending.

Session #8: *Farma wiatrowa (Wind Farm) – Case written by M. Moszoro*. Topics: assessment of the financial risks embedded in the development of a wind farm in the Polish Pomerania. Teaching purpose: to practice 1) financial feasibility and the proper use of various methods for capital investment decisions; 2) risk analysis tools: scenarios, sensitivity analysis, Monte Carlo method; 3) computer simulations and results presentation: Tornado, Spider Plot.

Session #9: *Guest Speaker* – top executive from an investment bank.

Session #10: Final exam. The final exam will consist on the preparation of a 1-page executive summary plus financial exhibits on a case (max. 3 pages overall) and will be open-book type. Students will be also allowed to bring their notebooks.

Readings

1. Selected case studies and technical notes.
2. Esty B. (2004) *Modern Project Finance: a Casebook*, John Wiley & Sons, New York.
3. Besley S., Brigham E. (2000) *Essentials of Managerial Finance*, The Dryden Press, 12th edition, Orlando.
4. Copeland T., Koller T., Murrin J. (2000) *Valuation – Measuring and Managing the Value of Companies*, McKinsey & Company, Inc. New York (particularly chapters 3 and 8).
5. *The Journal of Structured and Project Finance*, Institutional Investor, Inc.