



ECFS877

Project Finance

AFC Term 4 City 2019

Department of Applied Finance

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Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Lecturer

Cosmas Kapsanis

cosmas.kapsanis@mq.edu.au

Contact via Email

Credit points

2

Prerequisites

(Admission to MAppFin or MAppFin(Adv) or GradDipAppFin) and ECFS866

Corequisites

Co-badged status

Unit description

Project Finance typically involves an independent legal entity operating as a vehicle for owning and funding large scale projects. Capital sources for the entity will be a combination of equity from sponsors and debt from the bank or capital markets. The application of this financing approach is most commonly seen in the fields of infrastructure (both social and economic) and natural resource financing. Examples include the financing of toll roads, power stations, mines, pipelines, telecommunications networks, hospitals and public buildings such as courts and prisons. This course considers the financial techniques applied to solving such funding requirements in both the domestic and international context, and the business rationale for project finance. A comprehensive risk system is introduced for the identification and systematic allocation of risk in the various approaches to structuring a project financing. Funding, political-risk structuring, and recent capital-market developments are highlighted in class and through practical case studies. A heavy emphasis is placed on the international character of the project finance industry. The skills gained in this course will be relevant for corporate executives, bankers, lawyers, consultants and government officials who may be involved in large scale infrastructure and resource developments.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.

Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.

Critically analyse a proposed investment from the perspective of a range of stakeholders.

Discuss contemporary transactions that inform developments in the policy and practice of project and infrastructure funding.

Identify and explain sources of finance and the requirements to obtain funding from different providers.

General Assessment Information

To pass this unit the student needs to (1) Achieve an aggregate mark of 50 or more, and; (2) Pass the Final Exam.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Pre-course Assignment</u>	15%	No	10 Oct before class starts
<u>Case Prep & Class Participation</u>	15%	No	Ongoing
<u>Major Assignment</u>	20%	No	Refer to iLearn
<u>Final Exam</u>	50%	Yes	Refer to Timetable

Pre-course Assignment

Due: **10 Oct before class starts**

Weighting: **15%**

Summary of Assessment Task

Individual / Group: Individual.

Due Date: Thursday 10th October before class commences.

Submission Method: In class.

Extension Requests:

- No extensions will be granted.
- There will be a deduction of 10% of the total available marks for each 24 hour period or part thereof. This penalty does not apply for cases in which an application for Special Consideration has been made and approved.

- No submission will be accepted after solutions have been discussed or posted by the lecturer. As this normally occurs on day 2 of classes, students need to be aware that submissions are rarely accepted beyond the first 24 hour late period.
- Note: Applications for Special Consideration must be made within 5 (five) business days of the due date and time.
- Refer to MAFC Program Rules at <https://mafcstudents.mq.edu.au/> for information on the University's [Special Consideration Policy](#).

Pre-unit Assignment Task Description

Write a paper with a word limit of 2,000 addressing the following:

We are living in a period of limited economic growth and less than full employment. Many commentators propose investment in infrastructure as a tool available to government to help address these challenges, due to the positive multiplier effect presumed from investing in infrastructure.

Australia has long considered the development of a high-speed rail link down the east coast. In the 2019-20 Budget, the Australian Government established a National Faster Rail Agency to produce a number of business cases for higher speed rail between capital cities and regional centres. The Government allocated \$40 million to assess five fast rail corridors.

As of now, funding estimates for such a project are very varied but usually top \$100bn.

What financial, political and operational challenges does Australia face in building a high-speed rail service?

Write a paper of no more than 2,000 words highlighting the business issues and risks that a proponent of such a project would need to address. You may source data online from reputable publications and your paper should take into account the specific scale of this prospective investment.

This paper is required by the beginning of the first evening session on **Thursday 10th October**. Submissions should be made by hard copy handed to me at the commencement of the class.

This paper is worth 15% of your course grade.

On successful completion you will be able to:

- Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.
- Identify and explain sources of finance and the requirements to obtain funding from different providers.

Case Prep & Class Participation

Due: **Ongoing**

Weighting: **15%**

Summary of Assessment Task

Individual / Group: Individual.

Due Date: Ongoing.

Submission Method: In class.

Extension Requests:

- Students who do not attend receive a mark of zero. This penalty does not apply in cases where an application for Special Consideration has been made and approved.
- Note: Applications for Special Consideration must be made within 5 (five) business days of the due date and time.
- Refer to MAFC Program Rules at <https://mafstudents.mq.edu.au/> for information on the University's [Special Consideration Policy](#).

Other Information:

Classroom sessions have a heavy component of case work. In order to participate effectively in class, it is critical that cases are prepared properly.

Students should allow at least 3 hours per case of reading and analysis time and come to class prepared to be called on at random to present and defend answers to the case questions. Note: many questions require numerical analysis which is impossible to complete at short notice or 'on-the-fly'.

The timetabling of the classroom case study sessions is given below in the Unit Schedule by session.

On successful completion you will be able to:

- Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.
- Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.
- Discuss contemporary transactions that inform developments in the policy and practice of project and infrastructure funding.
- Identify and explain sources of finance and the requirements to obtain funding from different providers.

Major Assignment

Due: Refer to iLearn

Weighting: 20%

Summary of Assessment Task

Individual / Group: Individual.

Due Date: Refer to iLearn.

Submission Method: Via iLearn.

Extension Requests:

- No extensions will be granted. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission incurs a 20% penalty). This penalty does not apply for cases in which an application for Special Consideration is made and approved.
- Late submissions will be accepted up to 96 hours after the due date and time.
- Note: Applications for Special Consideration must be made within 5 (five) business days of the due date and time.
- Refer to MAFC Program Rules at <https://mafcstudents.mq.edu.au/> for information on the University's [Special Consideration Policy](#).

Other Information:

- There are two components to your assessment: (1) a financial model; (2) a written report detailing the conclusions of your analysis including a Terms Sheet detailing the principal transaction terms and conditions.
- Your model must be built in MS Excel. Your written report and Terms Sheet should be MS Word documents.
- All information required for this assignment is provided in the question paper, with the exception of forward interest rates, which may be sourced online through financial websites such as Bloomberg.
- Submit your work via the unit iLearn site and ensure you keep your own copy.

On successful completion you will be able to:

- Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.
- Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.
- Critically analyse a proposed investment from the perspective of a range of stakeholders.

Final Exam

Due: **Refer to Timetable**

Weighting: **50%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

Summary of Assessment Task

Individual / Group: Individual.

Due Date: Refer to Timetable.

Submission Method: As per MAFC Program Rules at <https://mafcstudents.mq.edu.au/>.

Duration: 2 hours plus 10 minutes reading time.

Examination Conditions:

- Exam times and locations are noted in the unit timetable at <https://www.mq.edu.au/about/about-the-university/faculties-and-departments/business/study-with-us/macquarie-applied-finance-centre/timetables>.
- Refer to MAFC Program Rules at <https://mafcstudents.mq.edu.au/>.

Extension Requests:

- You are expected to present yourself for examination at the time and place designated in the relevant MAFC Timetable at <https://www.mq.edu.au/about/about-the-university/faculties-and-departments/business/study-with-us/macquarie-applied-finance-centre/timetables>.
- Deferral of an examination is not permitted unless an application for Special Consideration is made and approved.
- Students who do not attend receive a mark of zero. This penalty does not apply in cases where an application for Special Consideration has been made and approved.
- Note: Applications for Special Consideration must be made within 5 (five) business days of the due date and time.
- Refer to MAFC Program Rules at <https://mafcstudents.mq.edu.au/> for information on the University's [Special Consideration Policy](#).

Other Information:

- Please submit your completed assignment via iLearn one week before the Final Exam
- The final exam is Open Book. You may bring any course materials you chose to print, or any handwritten notes to the exam.
- The Final Examination will be in two parts: Section A will be a case study with essays responses worth 55% of the exam total and Section B will be short and multi-choice questions and will be worth 45%.
- The exam Case will be available via iLearn one week in advance of the Final Exam.

- An exam booklet will be provided.
- Checklist for Open-Book Final Exam:
 - Any notes that you choose to print or hand write.
 - Calculator. Permitted calculators are noted under 'Calculators' below.
- NOTE: Laptop computers are not permitted.

On successful completion you will be able to:

- Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.
- Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.
- Critically analyse a proposed investment from the perspective of a range of stakeholders.
- Discuss contemporary transactions that inform developments in the policy and practice of project and infrastructure funding.
- Identify and explain sources of finance and the requirements to obtain funding from different providers.

Delivery and Resources

CLASSES

Face-to-Face Teaching: Generally 20 hours.

Timetable: Detailed timetable for classes are available at <https://www.mq.edu.au/about/about-the-university/faculties-and-departments/business/study-with-us/macquarie-applied-finance-centre/timetables>.

Consultation Times: Students who wish to contact any of the teaching staff may do so through individual consultation with the lecturer by email in the first instance, if necessary.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

Text: Nil.

Additional Readings:

- The unit iLearn site contains all the requisite reading material for the classes, class assignments, final examination, and case studies, as well as background articles, and reference material/glossary.
- **Students should assume these readings are examinable unless otherwise advised.**
- Additionally, students will gain benefit from using reputable sites on the internet to read around the topics covered in class.

Lecture Slides: Available via iLearn after the relevant class.

Pre-unit Materials:

- Information papers on statistics, regression, accounting and other material may be found at <http://mafcstudents.mq.edu.au/new-to-mafc/pre-course-materials/>. Students should work through this material prior to commencing the degree. The material will remain a useful reference as students progress through the program.
- **By the first class, students must have read the designated pre-course materials available in iLearn and prepared for the class case discussions.**

Useful References:

- Brealey & Myers, *Principals of Corporate Finance*, 7th Edition or later.
- Tinsley, *Advanced Project Financing: Structuring Risk*, 2nd Ed., Euromoney Books, London, 2014.
- Tinsley, *Practical Introduction to Project Finance*, DCGardner/Euromoney Workbook, 2nd Ed., London, 2000.
- Fabozzi & deNahlik, *Project Financing*, Euromoney, 8th Ed., London, 2012.
- There are books available to help develop your Excel skills, which are needed for assignments. Two helpful books are:
 - Craig W. Holden, *Excel Modelling in Corporate Finance*, 2nd ed., Pearson Prentice Hall, 2005; or
 - Michael Rees, *Financial Modelling in Practice*, Wiley, 2008.

Calculators: Any ordinary calculator will be sufficient for classwork and the Final Exam.

Assumed Knowledge:

- ECFS866 Corporate Finance is a pre-requisite.
- Basic Excel modelling.

Assumed Access: Access to a computer with word processing and spreadsheet capability is assumed, as is general student computer literacy.

TECHNOLOGY USED AND REQUIRED

Unit iLearn Site:

- Found by logging on to iLearn ilearn.mq.edu.au, then clicking on **ECFS877 Project Finance**.
- This is where you will find forums, downloadable resources and links to important pages.

Important:

- It is important that you familiarise yourself with the unit's iLearn site.

- Students should check the unit's iLearn site regularly (minimum twice a week and prior to all lectures) and look for updates and distribution of materials (including case studies) related to the unit or assessments and, if relevant, participate in forum discussions.

Unit Schedule

UNIT DESCRIPTION

- Large Scale Investments are challenging to value, risk manage, structure and finance. Typical examples include economic and social infrastructure such as toll roads or hospitals, tunnels, mines and petroleum developments.
- Project Finance is the discipline of crafting bespoke financial structures to meet the needs of stakeholders including equity and debt investors, host governments, suppliers, consumers and affected communities to enable finance for LSIs to be raised.
- This course examines Project Financing's rationale and methodologies through case studies, readings, lectures and class discussions.
- Four main themes run through the course: Valuing Projects, Structuring Projects, Managing Risk in Projects and Financing Projects.
- A major assignment allows students to develop skills in project evaluation through financial modelling and deal structuring.
- Case studies develop critical thinking and illustrate how the different stakeholders (sponsors, lenders, hosts and community) see value and risk in a transaction.
- Funding, risk structuring and recent transactions are highlighted in class and through practical case studies.

SESSION 1

Pre-Course Required Reading:

1. An Overview of Project Finance and Infrastructure Finance – 2014 Update, Esty, Chavich & Sesia, Ref: HBS 9-214-083.
2. Recent Developments In The Australian Project Finance Market - Doyle & Gifford-Moore, King & Wood Mallesons, Australia.
3. Financing Infrastructure: A Spectrum of Country Approaches - Sophia Chong and Emily Poole - Bulletin | September Quarter 2013 – Reserve Bank of Australia.

Topics:

- Introduction to Project Finance and Large Scale Investments
 - Course plan, expectations & assessments
 - Defining 'Project Finance'

- Sectors, scope and scale
- Structure & Risk
 - The stakeholders
 - Identifying risks
 - Structuring consequences of risk allocations

SESSION 2

Topics:

- Valuing Projects
 - DCF analysis
 - Banking analysis: CF ratios and debt sizing
 - Financial models
 - Introduction to modeling assignment

Case: Nava Bharat: Energy Solutions for India

Read and analyse the case and consider whether the coal-fired thermal power plants offer a good investment vehicle for the lenders?

In doing so:

1. Explain the benefits of project financing and the rationale behind the creation of NBEIL as a special purpose vehicle (SPV) of the parent company, NBVL.
2. Comment on the significance of NBEIL's cash flow waterfall mechanism.
3. Calculate the debt service coverage ratio (DSCR) and internal rate of return (IRR) of the power project, and perform a sensitivity analysis on the key financial parameters (fuel expenses, plant load factor [PLF], interest rate).
4. Evaluate NBEIL's project by commenting on its managerial, technical, market, environmental, and financial aspects. Is it wise to proceed to syndicate a term loan for the coal-fired power project?

SESSION 3

Topics:

- Managing Risky Projects
 - Avoiding failure – Discussion based on assigned readings
 - Sydney Light Rail
 - Due diligence
 - Equator principals
 - International projects

Case: Absheron Project: BP's Production Sharing Agreement in Azerbaijan

Questions for this case are included in the case study

SESSION 4

Topics:

- Financing Projects
- Sources of Funds
 - Equity investors/sponsors
 - Debt investors/banks and specialised lenders
 - Capital markets
 - Governments and multilateral bodies

SESSION 5

Topics:

- Transaction Lifelines and Tools
 - Information memorandum
 - Terms sheets

Case: BrisConnections (A) – The Vested Interests of an Australian Toll Road

Questions for BrisConnections (A) are included in the case.

SESSION 6

Topics:

- Practice & Review
 - Group presentation
 - Class quiz
 - Revision

Learning and Teaching Activities

Strategy

The Master of Applied Finance degree adopts a deep teaching and learning strategy, in which students acquire and retain knowledge and also are able to make sense of the issues and concepts and apply them in the “real world”. The degree relies heavily on student engagement and participation by: (a) Continuous learning throughout the term. This is encouraged through a combination of students undertaking prescribed reading throughout the units and/or completion of practice problems, case studies, assignments, class presentations etc and interaction via forums in the unit's iLearn site; and (b) Assessments, which enable the student to demonstrate his/her understanding of the learning objectives achieved through the continuous learning.

Student Participation

Students participate in this unit by: (a) Attending lectures and participating in class discussion; (b) Before each class, completing the recommended readings and analysing the case studies scheduled, (c) Interacting on the unit's iLearn site; and (d) Completing all assessment tasks and exams. On average, the unit will require students to complete, for every hour of class time, approximately 3 hours private study.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Undergraduate students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Students should also consult the MAFC Program Rules found at <https://mafcstudents.mq.edu.a>

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Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student enquiry service (MAFC-specific)

For all student enquiries, please contact studentsupport@mafc.mq.edu.au

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Analyse and explain the characteristics that make a large scale investment a candidate

for Project Finance.

- Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.
- Critically analyse a proposed investment from the perspective of a range of stakeholders.
- Discuss contemporary transactions that inform developments in the policy and practice of project and infrastructure funding.
- Identify and explain sources of finance and the requirements to obtain funding from different providers.

Assessment tasks

- Pre-course Assignment
- Case Prep & Class Participation
- Major Assignment
- Final Exam

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.
- Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.
- Critically analyse a proposed investment from the perspective of a range of stakeholders.
- Discuss contemporary transactions that inform developments in the policy and practice of project and infrastructure funding.
- Identify and explain sources of finance and the requirements to obtain funding from different providers.

Assessment tasks

- Pre-course Assignment
- Case Prep & Class Participation
- Major Assignment

- Final Exam

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Analyse and explain the characteristics that make a large scale investment a candidate for Project Finance.
- Employ skills to (i) identify and evaluate risks in large scale investments and (ii) to structure transactions in mitigation of those risks.
- Critically analyse a proposed investment from the perspective of a range of stakeholders.
- Discuss contemporary transactions that inform developments in the policy and practice of project and infrastructure funding.
- Identify and explain sources of finance and the requirements to obtain funding from different providers.

Assessment tasks

- Pre-course Assignment
- Case Prep & Class Participation
- Major Assignment
- Final Exam

Important Notice

This Unit Guide may be subject to change. Students will be advised, via an "Announcement" on iLearn, if the Unit Guide is changed.

The latest version is available at <https://unitguides.mq.edu.au/>.

Students should read the Unit Guide carefully at the start of term. It contains important information about the unit. If anything is unclear, please consult one of the unit lecturers.