COURSE TITLE: Project Finance

**FACULTY BIO**

**Karl V. Lins** is Visiting Professor of Finance from the University of Utah where he is the Spencer Fox Eccles Chair in Banking and Professor of Finance at the David Eccles School of Business. Karl researches primarily in the areas of international corporate governance and capital markets, and presents his research at universities and academic conferences worldwide. Karl has published his papers in the *Journal of Finance*, the *Journal of Financial Economics*, the *Review of Financial Studies*, the *Journal of Accounting Research*, the *Journal of Financial and Quantitative Analysis*, *Financial Management*, the *Journal of Corporate Finance*, and the *Review of Asset Pricing Studies*. His research on family firm performance during the financial crisis was awarded the Best Paper prize at the European Financial Association annual meeting in 2012.

Karl has been an annual visitor to London Business School since 2007, teaching both the Project Finance course and the Advanced Corporate Finance course in the executive education programme over these years. He has also done executive teaching at INSEAD, the Duisenberg School of Finance, the University of North Carolina at Chapel Hill, Southern Methodist University, University of Utah, and several institutions in Mexico. He has earned several awards for excellence in teaching at the University of North Carolina, the University of Utah, and the Duisenberg School of Finance. Prior to starting his academic career, Karl worked as a petroleum engineer for Conoco Inc. and in corporate finance and international marketing positions for Boise Cascade Corporation.

Karl earned a B.S. in Petroleum Engineering from Texas A&M University in 1985, an MBA from the Anderson School at UCLA in 1989, and a Ph.D. in Finance from the University of North Carolina at Chapel Hill in 2000 where he was named the school’s Outstanding Doctoral Student.
COURSE SUMMARY

Over the last several decades, project finance, a contracting technology for allocating the risks and rewards of large-scale projects, has become a highly visible force in the field of finance. Worldwide private sector investment in project finance deals has been around $250-300 billion annually since the mid-2000s. The use of this type of finance is linked with successes such as British Petroleum’s development of the “Forties Field” and the multiple-sponsor Mozal aluminium smelter in Mozambique, as well as with such spectacular (initial) failures as Eurotunnel and satellite phone operator Iridium.

More recently, governments around the world have begun to switch to financing capital investment off balance-sheet instead of issuing government securities. An important part of this trend is PPP (Public Private Partnerships) and PFI (the UK government’s Private Finance Initiative), pioneered in the UK and becoming widespread around the globe.

Why is project financing being increasingly relied on to fund investments? What advantages does it have over traditional corporate finance? Why did some structures fail whereas others succeed? How do the governance mechanisms in such structures work? What are the valuation challenges posed by such structures? What financing innovations have they generated and how are these valued? If such projects encounter financial distress, how should they optimally be restructured? These are the questions we will address in this course. We will use the principles of corporate finance and the lens of market imperfections such as agency costs to examine how project finance can add value.

Students will apply project finance techniques and principles to gain a deeper understanding of the way that large-scale projects are structured, valued and financed. Students will work through a series of case studies to apply project finance principles and valuation methods to real-life projects.

By the end of the Project Finance elective course, students will have a framework for understanding the many ways in which project finance can mitigate specific risks and provide incentives, while also assessing the limitations of such structures.

Participants are assumed to be broadly familiar with (through previous study or professional experience) basic corporate finance and valuation methods.

The Project Finance elective is structured along several main themes:

- Creating value through project finance
- Project finance versus corporate finance
- Financing, valuing and structuring projects
- Analyzing project risks and rewards
  - Analyzing factors that sponsors and lenders care about in project finance structures
- Public Private Partnerships (PPP, or 3P)
- Project finance in emerging markets
ASSESSMENT

Assessment Table:

<table>
<thead>
<tr>
<th>Assessment type</th>
<th>Deadline</th>
<th>Weighting</th>
<th>Group/Individual</th>
<th>Submission Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case x 4</td>
<td>One week after they are handed out</td>
<td>Group</td>
<td></td>
<td>Hand in written case answers to the Course Administrator, before 16:00 of the day they are due. Or, if not possible, hand in written case answers to me in class room prior to 18:45 start time. No credit will be given for late cases.</td>
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Class Participation: Each session Individual
In-class Case Exam: 16/10/13 (first 1.5 hours); Individual
Follow Up Discussion: (last hour, after break) Group

Minimum requirements to pass this course:
1) minimum 50% in the weighted final numerical score AND
2) minimum 50% in each of the individual components

Assessment Overview

Cases overview: We will cover six cases. You have to read and answer the study questions for all six cases. Students will form their own groups for the cases and will turn in four cases in total (each group can choose its cases to turn in). If you choose to turn in a case to be graded, you must either hand in written answers to the Course Administrator, Kaylie McKelvey before 16:00 of the day it is due (this is preferred) or hand in written answers to me in the class room right before the start of the class period. No credit will be given for late cases. Cases are graded on a scale from 1 to 10. The case-study questions are on Portal; each case is due one week after it is handed out in class.

You are required to meet in groups outside of class to discuss and analyze the cases. In the past, students have found that these groups complement the class discussion well. A group cannot be larger than 5 students. Each group will submit a three-page memorandum of analysis and recommendations covering the case study questions plus any accompanying tables you wish to include. Tables should be well organized and labelled. Be sure to indicate how you arrived at your conclusions. Write these as if you were writing a recommendation for the CEO or the main decision maker in the case.

In the past, students have asked for handouts of the “correct” case analysis after the class has discussed the case. I will not do this for two reasons. First, the best cases are deliberately written to be ambiguous. While there are no right answers, there are good and bad arguments. Handing out my analyses would reduce the ambiguity in the cases and partially defeat the purpose of doing cases. Second, when case analyses are handed out, these answers will reach future students taking the class with probability one. This seriously impedes an open and rewarding case discussion and imposes huge negative externalities both on myself as well as on other people teaching these cases. Also, although explicit case solutions will generally not be handed out, I will give numerous handouts throughout the course, summarizing the important concepts covered in the cases, and of course, we will cover the potential solution of the case in class.
Plagiarism Declaration
All students completing this course should be aware that in submitting any assignment for this course, you agree to the following declaration:

“I certify that the coursework that I have submitted is entirely my own unaided work, and that I have read and complied with the School’s guidelines on plagiarism and referencing as set out in the School handbook.

I understand that the School may make use of plagiarism detection software and that my work may therefore be stored on a database which is accessible to other users of the same software.”

Students should be aware that, where plagiarism is suspected, a formal investigation may be carried out under the School’s Student Disciplinary Procedure. This may result in penalties ranging from mark deduction to expulsion from the School.

READING LIST
Although the course will not follow any textbook, there is an interesting book covering project finance topics by Yescombe (2002) should you want to obtain it for background reading or for some additional institutional-specific detail:

There are many primers and subject notes that you will want to read. Additionally, there are, of course, the case assignments for which you will need to read in depth and work out solutions. These materials are listed below and can be found on Portal:

- HBS note: An Overview of Project Finance and Infrastructure Finance – 2009 update (HBS 9-210-061)
- HBS note: Business Valuation and the Cost of Capital (HBS-9-210-037)
- HBS note: Note on Valuing Equity Cash Flows HBS-9-295-085
- HBS note: A Note on Capital Cash Flow Valuation (HBS-9-295-069)
- HBS note: Basel II: Assessing the Default and Loss Characteristics of Project Finance Loans (B) (HBS-9-204-094)
- Iridium LLC case (HBS-9-200-039)
- Globalizing the Cost of Capital and Capital Budgeting at AES (HBS 9-204-109)
- Harvey article: 12 Ways to Calculate the International Cost of Capital (2005 Private Working Paper, used with permission, all rights reserved by Harvey)
- Financing the Mozal Project case (HBS 9-200-005)
- Chad Cameroon Petroleum Development and Pipeline Project A and B cases (HBS 9-202-010 and HBS 9-202-012)
- Poland A2 Motorway case (HBS 9-202-030)
- Public Private Partnerships: London Underground case (HKU819, accessed from HBS site)

Optional Reading:
- Erb, Harvey, and Viskanta academic article (skim only if interested): Expected Returns and Volatility in 135 Countries (Journal of Portfolio Management, Spring 1996)
TEACHING METHODS

Teaching/contact hours: Note first that the best way to get in touch with me is via email, preferably to the “utah” email address listed on the first page. I will be available for individual meetings for the duration of our course during the following times:

Every Monday  17:00-18:00
Every Wednesday 17:00-18:00

The following teaching methods will be used on this course:

- Lecture & Case Discussions:
- Guest Speakers:
- In-class Case Exam:

OTHER

Portal is the main information dissemination mechanism; there will be no folder for this course. When you have a question, you should consult portal first, as in most cases, you will find the answer there. If it is not the case, then contact the Course Administrator and Professor.

Lecture notes, teaching slides, hand-outs, case question assignments, announcements, excel spreadsheets and anything handed out in class will be put on Portal (unless it's copyrighted material).

- The Excel spreadsheets are for particular cases we analyse in the course, if such cases have Excel-like exhibits. These spreadsheets contain one or more of the exhibits in the case. This will make it easier for you to spend time on the analysis, rather than punching in numbers.