Revised September 5, 2012

HCMG 849: Financial Management of Health Institutions

Fall 2012, MW 3:00-4:20, Vance Hall, B-10

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TA and liaison: Michael Gallagher, second year MBA student; office hours to be announced

Prerequisite: Finance 601, equivalent, or instructor permission

Overview

The course focuses on the application of quantitative financial analysis to investment, financing, and operating decisions in the health care sector.

Analytical methods covered:

- Discounted cash flow, comparable firm, and venture capital valuation
- Expected net present value, decision tree, and real option valuation of products in development
- Payer/provider risk analysis and performance evaluation

The course is structured around six cases dealing with the biopharma, device, managed care, and provider sectors. The cases examine the following decisions/situations:

- Estimating the value of a publicly-traded medical device company acquisition
- Estimating the value of a drug in development using expected NPV valuation
- Estimating the value of a drug in development using decision tree analysis / option pricing
- Analyzing financing and deal structure for a start-up device company
- Evaluating risk and profitability of customer cohorts and associated strategy for a managed care organization
- Designing episode-based payments for physicians and hospitals

The approximate breakdown of the course by sector / subject is:

- General concepts and methods (≈ 4 sessions)
- Pharmaceuticals, biotechnology, and device applications (≈ 12 sessions)
  - Valuing companies with revenue-generating products – Case 1
  - Valuing products in development – Cases 2 & 3
  - Funding early stage ventures – Case 4
- Payers and providers (≈ 8 sessions)
  - Managed care organizations – Case 5
  - Health systems – Case 6

Canvas site

The cases and readings will be posted in the course Canvas site. A copy of the lecture slides usually will be distributed in class and posted after class.

Case teams, write-ups, and presentation

Groups of **three or four** students should assemble to form a case team. Each team will be responsible for submitting 4 case write-ups and presenting one case in class. A case write-up should consist of no more than 6 pages of text, with as many supporting exhibits and figures as needed. More details on content and format will be provided in class.

A team's oral presentation should take approximately 15-20 minutes. Each member is required to participate. The presenting team should turn in its slides/overheads and **may** also turn in a write-up if the presentation slides will not fully reflect adequately the team's analysis.

A team member's overall case grade may be adjusted based on teammate evaluations.

Exam

An exam will be given in class on November 28. You can bring one sheet of paper with helps on one side. This exam may be made up subject to University rules for making up a final examination. If necessary, the makeup exam will be given at 5 p.m., Dec. 17 (the final examination time for MW classes beginning at 3:00).

Course grade

	Numerical Weight
Case write-ups	40%
Case presentation	15%
Class participation	20%
Exam (November 21 in class)	25%

Protocol

- Attendance is important, **including all case and outside speaker dates**. Missing class on those dates will significantly reduce your participation grade.
- No laptops, netbooks, iPads, cell phones, smart phones, electronic readers, etc. during class.
- There will be a seating chart.

Date	Topic	Reading
Sept. 5	The financing environment	1. U.S. health care – managed care post- SCOTUS
Sept. 10	Valuing health companies: overview of methods; background on device sector	2. Healthcare: Products and supplies
Sept. 12	Cost of capital for healthcare companies	3. Cost of capital for biotech, pharma, and device firms
Sept. 17	ENPV of a drug in development	4. Returns on research and development
Sept. 19	Understanding and valuing licensing arrangements	5. The economics of licensing contracts
Sept. 24	Valuing development flexibility	6. Valuing pharma R&D: the catch-22 of DCF
Sept. 26	**Case 1 due:** Medtronic/Kyphon;	7. Vertebral compression fracture treatments under pressure
Oct. 1	Valuing flexibility, cont.	8. Getting real about valuation in biotech
Oct. 3	**Guest Speaker** – Adam Koppel, Managing Director, Brookside Capital / Bain Capital	
Oct. 8	**Guest Speaker** – Geoff Porges, Sanford C. Bernstein	
Oct. 10	**Cases 2 / 3 due: ENPV of a drug / Valuing flexibility**	
Oct. 15	Valuing early stage ventures	9. In defense of life sciences venture investing
Oct. 17	Alternative financing arrangements	10. Risk sharing arrangements that link payment for drugs to health outcomes are proving hard to implement
Oct. 24	**Guest Speaker** – Geoff Meyerson, Locust Walk Partners	
Oct. 29	**Case 4 due**: Financing an early stage device co	
Oct. 31	Managed care and the ACA	11. The 3Rs: risk adjustment, reinsurance, risk corridors
Nov. 5	**Guest Speaker** -- Michael Aberman, VP Strategy and IR, Regeneron Pharmaceuticals	
Nov. 7	Managed care risk adjustment.	12. Issues in risk adjustment for Medicare Advantage
Nov. 12	**Case 5 due: Managed care** (under development)	
Nov. 14	**Guest Speaker** – Avik Roy, the Manhattan Institute; member of Governor Romney's health policy advisory committee	
Nov. 19	**Guest Speaker** – William Copeland, Managing Principal, Deloitte life sciences and health care practice	13. Analyzing shifts in economic risks to providers
Nov. 26	Health systems and payment design	14. The potential for cost savings through bundled episode payments
Nov. 28	**Exam**	
Dec. 3	**Guest speaker** – Michael Dandorph, Senior VP of Business Development, U of PA Health System	
Dec. 5	**Case 6 due: Bundled payments**	

Assigned Readings *(posted on Canvas)*

1. **U.S. Health Care-Managed Care,** Citing Framers, Monsters, Taxing, and Dragooning, SCOTUS Upholds the PPACA in its Entirety (Almost), Barclays Equity Research, June 28, 2012.
2. **Healthcare: Products and Supplies**, pp. 1-36, by Phillip Seligman, August 9, 2012, *Standard & Poor's Industry Surveys.*
3. **The Cost of Capital for Biotechnology, Pharmaceutical, and Medical Device Firms**, by S. Harrington, 2010, in P. Danzon and S. Nicholson, eds., *The Handbook of the Economics of the Biopharmaceutical Industry*, in press.
4. **Returns on Research and Development** for 1990s New Drug Introductions, by Grabowski, J. Vernon, and J. DiMasi, *Pharmacoeconomics* 20, Suppl. 3 (2002): 11-29.
5. **The Economics of Licensing Contracts**, by R. Mason, N. Savva, and S. Scholtes, *Nature Biotechnology* 26 (August 2008): 855-857.
6. **Valuing Pharma R&D: The Catch-22 of DCF**, by R. Villiger and B. Bogdan, *Journal of Applied Corporate Finance* 17 (Spring 2005): 113-116.
7. **Vertebral Compression Fracture Treatments under Pressure**, by T. Salemi, December 2010, *IN VIVO.*
8. **Getting Real About Valuations in Biotech**, R. Villiger and B. Bogdan, *Nature Biotechnology* 23 (April 2005): 423-428.
9. **In Defense of Life Sciences Venture Investing**, by B. Booth and B. Salehizadeh, *Nature Biotechnology* 29 (July 2011): 579-583.
10. **Risk Sharing Arrangements that Link Payment for Drugs to Health Outcomes are Proving Hard to Implement,** P. Neumann, J. Chambers, F. Simon, and L. Meckley, *Health Affairs* 30 (December 2011): 2329-2337.
11. **The 3Rs: Risk Adjustment, Reinsurance, and Risk Corridors,** R. Winkelman and M. Hegemann, Wakely Consulting Group, October 2011.
12. **Issues in Risk Adjustment for Medicare Advantage**, *Report to the Congress: Medicare and the Health Care Delivery System*, MedPac, June 2012.
13. **Analyzing Shifts in Economic Risks to Providers in Proposed Payment and Delivery System Reforms**, by J. Goldsmith, *Health Affairs* 29 (July 2010): 1299-1304.
14. **The Potential for Cost Savings through Bundled Episode Payments,** D. Cutler and K. Ghosh, *New England Journal of Medicine* 366 (march 22, 2012): 1075-1077.