WEEK 1A: INTRODUCTION: WHO OWNS AND MANAGES ASSETS?

Required Reading

- *The Economist*, February 28, 2008, Survey on Fund Management, "Trillion Dollar Baby," "Money for Old Hope," "Better than Beta," "Plenty of Alternatives," "In the Spotlight," "All Things to All Men," "We Make, You Sell," "Jam Today, Jam Tomorrow," "Sources and Acknowledgments."
- *BlackRock Viewpoint*, "Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation," May 2014.
  http://www.blackrock.com/corporate/en-is/literature/whitepaper/viewpoint-who-owns-the-assets-may-2014.pdf
- Elizabeth Holmquist and Susan McIntosh, "U.S. Net Wealth in the Financial Accounts of the United States," FEDS Notes, October 8, 2015.
  http://www.federalreserve.gov/econresdata/notes/feds-notes/2015/us-net-wealth-in-the-financial-accounts-of-the-united-states-20151008.html

Optional Readings

- Simpson Thacher & Bartlett LLP, "Private Equity in 33 Jurisdictions Worldwide (2010): The United States".
  http://www.stblaw.com/docs/default-source/cold-fusion-existing-content/publications/publications973_2.pdf?sfvrsn=2

Questions for Case Write-up

You should study the required readings carefully, then prepare a brief write-up (no more than 300 words) which addresses the following questions:

1. What is the difference between "alpha" and "beta"?
2. If a pension fund pays a long-only stock asset manager 50 basis points per year, how much of this payment should represent a reasonable amount for alpha and how much should represent reasonably amount for beta?
3. What does BlackRock say is the difference between an asset owner and an asset manager? Is BlackRock's classification scheme internally consistent? Does it avoid double-counting of wealth?

4. According to BlackRock: Why are mutual funds not in exhibit 1? Does the wealth of the mass affluent in exhibit 1 include claims to retirement annuities? Cash deposits at banks?

5. What is the effect of LDI strategies for corporate DB plans (combined with FAS 158 and IAS 19) on asset allocation of corporate pension plans?

6. Why do bank deposits not show up in Chart 1 of the FEDS Note on U.S. Net Wealth? Is the classification scheme in the FEDS Note consistent with Blackrock's classification scheme?

7. Suppose that a corporation sets up a pension fund, which invests in a private equity fund (limited partnership), which invests in a leveraged buyout of a family-owned business, which involves transfer of all the shares in the family-owned business to a special purpose vehicle which the private equity fund managers control. According to BlackRock, who is the new owner of the family-owned business: the shareholders of the corporation, the corporation itself, the corporation's pension plan, the beneficiaries of the pension plan, the limited partnership, the general partner of the limited partnership, the limited partners, the special purpose vehicle, or some other entity? Does BlackRock's way of thinking about asset ownership make sense?

8. EXTRA CREDIT: According to the article by Simpson Thacher & Bartlett LLP, do private equity fund managers have a strong fiduciary obligation to their limited partners?

WEEK 1B: UNIVERSITY ENDOWMENTS AND ALTERNATIVE ASSETS

Required Reading

- "Yale University Investments Office: February 2015," HBS Case #9-812-062 (rev. February 11, 2015). Coursepacks can be purchased using this link:
  `https://cb.hbsp.harvard.edu/cbmp/access/48371430`
- Sabrina Willmer and Tom Moroney, "The Secretive Hedge Fund That's Generating Huge Profits for Yale," BloombergBusiness, February 4, 2016.
  `http://www.bloomberg.com/news/articles/2016-02-04/the-secretive-hedge-fund-that-s-generating-huge-profits-for-yale`
- Mulcahy, Diane, Bill Weeks, and Harold Bradley, "We Have Met the Enemyand He is Us: Lessons from Twenty Years of the Kauffman Foundation's Investments in Venture Capital Funds and the Triumph of Hope Over Experience," Kauffman Foundation, May 2012. Available at SSRN:
  `http://ssrn.com/abstract=2053258`
  or
  `http://dx.doi.org/10.2139/ssrn.2053258`

Optional Reading

- "Harvard Management Company (2010)," HBS Case #9-211-004. (This case can be used as a make-up case or a late case for students unable to complete the Yale case before class. Please answer the same questions as for the Yale case, using your judgement to adapt the questions to Harvard. I hope that some students choose this case as an alternative because Harvard and Yale approach asset management differently in some respects, and these differences raise interesting issues.)
- "Secrets of the Academy: The Drivers of University Endowment Success," Josh Lerner, Antoinette Schoar, and Jialan Wang, manuscript, October 30, 2007.
- "Harvard Management Company Endowment Report, Message from the CEO," Harvard Management Company, September 2009.

Optional Bedtime Reading

- David F. Swensen, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investing*, 2000.
- David F. Swensen, *Unconventional Success: A Fundamental Approach to Personal Investment*, 2005.

Questions for Case Write-up

You should read the Yale case carefully, then prepare a brief write-up (no more than 700 words) which addresses the following questions:

1. How would David Swensen define the efficient markets hypothesis?
2. Does Swensen believe in market timing in markets for stocks, bonds, private equity, real estate, oil and gas? What specific features of private equity markets make market timing difficult?
3. Consider a choice between the following two different hedge funds: (1) a fund run by former university professors who use sophisticated statistical algorithms to pick stocks based on public accounting and returns data using techniques found in published finance literature; (2) a fund managed by energy industry experts with engineering undergraduate degrees from prominent state universities (no graduate degrees) and with many personal contacts in the industry developed based on years of industry experience? Which fund would David Swensen probably like more?
4. What does the following statement mean? "We would have been in trouble if all our commitments had been called at once."
5. Did Yale get into trouble during the financial crisis? What role did Yale's AAA credit rating play?
6. How do you think Swensen should compensate his own employees? How should Swensen himself be compensated?
7. Is the size of Swensen's staff appropriate for the size of the endowment? How would the organization of the investment process for private equity need to change if the endowment were ten-times its current size? One

tenth its current size? What recommendations would Swensen make about the asset allocation strategy of small university endowments?

8. Do the large differences in performance between top-quartile and bottom quartile venture capital funds imply that there are differences in "ability" of venture capital funds which Swensen and his team might be able to identify? How should differences in ability of venture capital fund managers show up in performance data?

9. If Swensen does not like financial engineering, why would he invest in Nancy Zimmerman's hedge fund Bracebridge Capital?

10. EXTRA CREDIT: Should Yale try to modify limited partnership agreements of the funds in which it invests so that it can exercise significant power over specific investment decisions, in order to better employ its accumulated expertise? HINT: You might need to think like a lawyer to answer this question correctly!

11. EXTRA CREDIT: If Swensen decides that the CAPM beta of private equity is larger than previously thought, how would this information affect his fund's allocation to private equity, taking into account the historical returns earned by private equity investments.

12. EXTRA CREDIT: How much transparency should Yale demand from the funds it invests it? How would Yale prevent its hedge fund managers from "reaching for yield" or practicing financial engineering?

13. EXTRA CREDIT: Explain how having separate accounts would have been helpful to Yale's hedge fund investments?

14. EXTRA CREDIT: If the university believes that having "superstars" like David Swensen in charge of its endowment allows it to outperform other university endowments by several hundred basis points per year, does this belief suggest that the university should increase, decrease, or leave the same its target annual spending rate as a proportion of assets, in comparison with an alternative belief that Yale's stellar performance over the years is the result of luck rather than having super-skilled endowment managers? How is your answer influenced by changes in Yale's spending rate over time?

15. EXTRA CREDIT: A “convex function” is defined as a function with the property that a straight line connecting two points on the graph of the function never lies below the graph itself. Draw a graph of the payoff of a call option as a function of the realized value of the underlying asset. Explain how this is similar to the carried interest component of the compensation of a private equity asset manager. Explain how the slope and convexity of the function are related to incentives for the asset manager to work on behalf of the client (Yale) and to take risk. With respect to the investment strategy of the fund, does the convex shape suggest that Yale is more risk averse or less risk averse than its asset managers?

WEEK 2A: PRIVATE EQUITY FUND-RAISING

Required Readings

- HBS Case, "Acme Investment Trust" (9-296-042, revised October 6, 2000). (This case is substantially different from the newer case with the same name "Acme Investment Trust:: Januray 2001." I prefer the older case.)

Optional Readings

- HBS Note, "Note on Private Equity Partnership Agreements," (Rev. August 14, 2007, 9-294-084).
- HBS Note, "A Note on Private Equity Fundraising," (Rev. August 13, 2007, 9-201-042).

Questions for Case Write-up

The write-up should be about 500 words without EXTRA CREDIT questions:

1. Why is Warburg, Pincus proposing a different fee structure from the standard arrangement?
2. How would David Swensen evaluate Yale's investing with Warburg, Pincus?
3. What compensation issues does Warburg, Pincus face with its own employees, which are different from a smaller, newer VC organization?
4. Consider asset allocation decisions like: 1) how much to invest in private equity versus venture capital; 2) how much to biotech versus telecom; 3) how much international versus domestic; 4) how much South America versus Eastern Europe. Should these decisions be made by endowments and pension fund plan sponsors, or by the asset managers they hire to manage their assets?
5. EXTRA CREDIT: What is the present value over the life of the fund of a 1% or 1.5% management fee, based on committed capital? For the purpose of this question, assume that the fee is phased out over the

last several years of the fund's life in the following manner: 100% of fee for years 1-6, 75% of fee for year 7, 50% of fee for year 8, 25% of fee for year 9, no fee after year nine. Assume that the risk-free rate is 5%. To make calculations simple, assume the fee is paid annually, at the end of the year. (More realistically, it might be paid quarterly, in advance.)

6. EXTRA CREDIT: What is the ex-post value (as of year ten) of 15% or 20% carried interest, under the assumption that all committed capital is eventually invested, and for each one hundred dollars contributed by the limited partners (including management fees), the fund returns 6x in cash or distributed securities in the following manner: $50 in year 3, $75 in year 4, $100 in year 5, $150 in year 6, $100 in year 7, $75 in year 8 and $50 in year 9. Perform the same calculation for 0.5x, 1.0x, 2.0x, 3.0x,, 10.0x, scaling the value of the distributed securities proportionally. Assume that the values are returned at the end of the year, and assume that the investors receive all of their committed capital back before the VCs collect carried interest. To make your answer precise, assume that all carried interest is invested at a risk-free rate of 5% from the time received until the end of year ten.

7. EXTRA CREDIT (HARDER): What are the financial implications of the proposed changes for Warburg, Pincus? In particular, for what multiple (e.g., 3x or 4x or some other number) is the total compensation the same for the two different compensation schemes.

8. EXTRA CREDIT: Continue the same assumptions about management fees and return of capital as above. Assume that the committed capital not needed for management fees is invested in equal annual installments over 4 years. Calculate the IRR of the fund in two different ways. First, consider as cash flows only payments into the fund when capital is called and distributions out of the fund valued at the date of distribution. Second, calculate IRR based on two cash flows: the amount of committed capital at the beginning and the amount of returned capital at the end. Before the committed capital is called and between the time of distribution and the end of the fund's life, assume that the capital is invested at the risk-free rate of 5%. Without doing any spreadsheet calculations, can you use "numerical intuition" to guess what you might discover from specific calculations?

9. EXTRA CREDIT (VERY HARD): This is hard, more like a Ph.D. dissertation topic. Thinking of carried interest as an option, how much is this option worth to Warburg if the carry is 15 or 20%? Does a change from 20%/1% to 15%/1.5% represent and increase or decrease in compensation to Warburg? (This question is answered one way in the paper by Metrick and Yasuda. I propose a simpler "back-of-the-envelope" answer in notes I will post on Blackboard.)

WEEK 2B: PRIVATE EQUITY COMPENSATION

Required Readings

- GAO, Statement of Charles A. Jeszeck, Testimony Before the Subcommittee on Health, Employment, Labor and Pensions, Education and Labor Committee, House of Representatives, *Private Pensions: Conflicts of Interest Can Affect Defined Benefit and Defined Contribution Plans*, March 24, 2009, GAO-09-503T.

- GAO, Statement of Barbara Bovbjerg, Testimony Before the Subcommittee on Health, Employment, Labor, and Pensions, Committee on Education and Labor, House of Representatives, *Defined Benefit Pension Plans: Plans Face Valuation and Other Challenges When Investing in Hedge Funds and Private Equity*, July 20, 2010. GAO-10-915T.

- CBO, Testimony Statement Of Peter R. Orszag, Director, "The Taxation Of Carried Interest," Before The Committee On Ways And Means U.S. House Of Representatives, September 6, 2007, Congressional Budget Office.

Optional Readings

- "The Economics of Private Equity Funds," Andrew Metrick and Ayako Yasuda, manuscript, July 1, 2007. (Interesting management fee model.)

- "High Water Marks and Hedge Fund Management Contracts" by Goetzmann, Ingersoll, and Ross (*The Journal of Finance*, August 2003). (The equations are for Ph.D. students, but MBA students can get a sense of the model by reading the text of the paper and trying to figure out tables and graphs.)

- Josh Lerner, Antoinette Schoar, And Wan Wongsunwai, "Smart Institutions, Foolish Choices: The Limited Partner Performance Puzzle," *The Journal Of Finance*, Vol. 62, No. 2, April 2007, pp. 731–764.

- Robert M. Conroy and Robert S. Harris, "How Good are Private Equity Returns?" *Journal of Applied Corporate Finance*, Volume 19, Number 3, Summer 2007, pp. 96–108.

- Paul Gompers, Josh Lerner, "An analysis of compensation in the U.S. venture capital partnership," *Journal of Financial Economics*, Volume 51, 1999, pp. 3–44.
- Steven N. Kaplan And Antoinette Schoar, "Private Equity Performance: Returns, Persistence, And Capital Flows," *The Journal Of Finance*, Vol. 60, No. 4, August 2005, pp. 1791–1823.
- HBS Case, "Teena Lerner: Dividing the Pie at Rx Capital (A)" (9-406-088, December 7, 2006) If you read the Teena Lerner case, please Do Not Read:
- HBS Case, "Teena Lerner: Dividing the Pie at Rx Capital (B)" (9-406-112, June 22, 2006). This case describes what Teena Lerner actually did.

Questions for Case Write-up

The write-up should be about 300 words without EXTRA CREDIT questions:

1. Why is the 20% share of profits calculated differently for private equity funds than for hedge funds?
2. How does Yale deal with the issues addressed in the three GAO readings?
3. EXTRA CREDIT: Read the papers "High Water Marks and Hedge Fund Management Contracts" by Goetzmann, Ingersoll, and Ross (*The Journal of Finance*, August 2003). Since this is a paper aimed at readers with Ph.D. degrees in finance or economics, please feel free to skim through equations that you do not understand, but instead focus on the intuition behind the authors' ideas and the content of the tables. Provide a brief summary of what you think this paper says that might be of interest to potential limited partners in hedge funds, such as Yale or Harvard.

The following questions, based on the optional Teena Lerner case, are not required. I am proposing them for general interest, so that you can compare hedge fund compensation with private equity compensation. If you missed a previous class or assignment, these can be submitted for make-up credits.

1. How is Rx Capital compensated by investors in its fund? How is this compensation different from the way in which private equity funds managers are compensated?

2. Why are "high water mark" formulas used in hedge funds but not in private equity? Under what circumstances would it be appropriate to use a private-equity-style compensation contract for a hedge fund? Under what circumstances would it be appropriate to use a "high-water-mark" style hedge fund contract for a private equity fund?

3. How should Teena Lerner compensate her analysts this year? (There is no correct answer to this question. The "B" case says what she actually did, but please do not read it. Perhaps she could have done better!)

4. Propose a "time consistent" formula for compensating analysts, i.e., propose a formula that you believe would be appropriate to apply in all circumstances, even when things do not work out as expected. Explain how your formula differs from Teena Lerner's. Should employees be able to predict accurately the bonuses they will receive?

5. Should Teena Lerner share tell her limited partners how her compensation formula for analysts works?

WEEK 3A: ASSET MANAGERS AND SYSTEMIC RISK: ESPECIALLY MONEY MARKET MUTUAL FUNDS

Required Readings

- OFR study of the asset management industry: *Asset Management and Financial Stability*, Office of Financial Research (OFR), September 2013.
  http://financialresearch.gov/reports/files/ofr_asset_management_and_financial_stability.pdf
- Blackrock's comments on the above OFR study:
  http://www.sec.gov/comments/am-1/am1-14.pdf
- International Monetary Fund, *Global Financial Stability Report—April 2015—Navigating Monetary Policy Challenges and Managing Risks*, Chapter 3, "The Asset Management Industry and Financial Stability," pp. 93–143 (including Glossary).
  http://www.imf.org/External/Pubs/FT/GFSR/2015/01/index.htm
- Jack Bao, Josh David, and Song Han, "The Runnables," FEDS Notes, September 3, 2015.
  http://www.federalreserve.gov/econresdata/notes/feds-notes/2015/the-runnables-20150903.html
- Douglas Elliott and Yu Qiao, Arthur Kroeber, "Shadow banking in China: A Primer," Economic Studies at Brookings, March 2015.
  http://www.brookings.edu/~/media/research/files/papers/2015/04/01-shadow-banking-china-primer/shadow_banking_china_elliott_kroeber_yu.pdf

Optional Readings

- BlackRock, "Comments on the Consultative Document of Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions," April 4, 2014.
- GAO, *Private Equity: Recent Growth in Leveraged Buyouts Exposed Risks That Warrant Continued United Attention*, September 2008, GAO-08-885.
- Comments on the OFR report are available at the following:
  http://www.sec.gov/divisions/investment/comments-ofr-asset-management-study.shtml

- *2013 Annual Report*, Office of Financial Research, available at the following:
  http://www.treasury.gov/initiatives/ofr/about/Documents/OFR_AnnualReport2013_FINAL_12-17-2013_Accessible.pdf
- *2014 Annual Report*, Office of Financial Research, available at the following:
  http://www.treasury.gov/initiatives/ofr/about/Documents/OFR_AnnualReport2014_FINAL_12-1-2014.pdf

Questions for Case Write-up

The write-up should be about 300 words, i.e., only one or two sentences for each question. It should be handed in before the first class.

1. How does the OFR define an "asset manager." How is the OFR definition different from BlackRock's?
2. Why do these definitions seem to be so controversial? Why do you think the OFR report was so controversial?
3. Does Blackrock argue that regulation of the asset management industry is a bad idea? What is the political objective Blackrock is trying to achieve in its comments?
4. The tables at the end of the document provide information concerning sizes of asset managers and mergers and acquisition deals involving asset managers. Has Blackrock grown by mergers and acquisition? Based on comparing assets under management (AUM) and prices paid across deals, how much is typically paid in an asset manager M&A transaction, as a percentage of assets under management?
5. According to Blackrock, how are mutual fund redemption rules related to systemic risk? How might Yale deal with this issue?
6. Is the approach by the authors of the IMF study more similar to the approach of the OFR or the approach of Blackrock?
7. Use the paper "The Runnable" to construct a definition of shadow banking.
8. Would the OFR, Blackrock, or the IMF authors consider shadow banking in China to be destabilizing?

EXTRA CREDIT: Read some of the comments on the OFR report submitted to the SEC.

9. What are the commenters trying to achieve politically?

10. Do they generally agree or disagree with Blackrock?