ENTREPRENEURIAL FINANCE AND PRIVATE EQUITY
(GBUS 844, Fall 2002)

Professor Susan Chaplinsky

ENTREPRENEURIAL FINANCE AND PRIVATE EQUITY (EFPE) explores a comprehensive set of financial situations that arise in high growth and high risk enterprises. The course focuses primarily on the financial aspects of private equity investment. EFPE examines issues related to measuring returns in private equity funds, valuing enterprises at different stages of development, and structuring deals using various forms of financing. Each party's view of the value of the enterprise forms a basis for negotiation upon which the percent of equity participation and the terms of the contract are chosen. The terms depend not only the deal itself but also on prevailing market conditions. As venture firms are rapidly growing and changing organizations, there must be flexibility in capital raising and contract terms to carry the firm through its current stage of development and into the next.

Over the last decade there has been tremendous growth in the private equity industry. The pool of U.S. private equity funds has grown from $1 billion in 1990 to approximately $150 billion in 2001. The international private equity market developed later than the U.S. but now measures close to $20 billion. Despite this impressive growth, the private equity pool remains a relatively small part of the total invested dollars. For every dollar of private equity in the portfolio of U.S. institutional investors, there is approximately $40 of publicly traded equities. This relationship is even more unbalanced for overseas institutions. While there is strong consensus that private equity will grow, entrepreneurial firms will continue to face sizeable challenges in accessing the capital to invest. This course is devoted to understanding the interactions between private equity investors and the entrepreneurs they finance.

Private Equity Investments: 1990 – 2001

	United States		Rest of World	
($M)	No. Deals	Total Invested	No. Deals	Total Invested
1990	52	$1,086.9		
1991	103	2,812.6		
1992	306	5,695.0	3	-
1993	294	7,228.1	2	-
1994	369	9,137.5	6	$81.8
1995	711	19,685.4	6	244.1
1996	899	26,636.8	13	342.5
1997	1,067	37,696.7	19	520.3
1998	1,466	56,549.6	50	2,027.6
1999	2,374	168,321.9	129	7,088.9
2000	3,568	330,433.9	310	25,154.3
2001	2,045	143,211.0	258	17,387.7
TOTAL	**13,254**	**$808,495.3**	**796**	**$52,875.2**

Why study Private Equity?

First, whether as a budding entrepreneur or financial manager, an important motivation to study private equity is what it teaches us about finance in general. The situations encountered in private equity often violate assumptions used in standard valuation methods (i.e., the First Year model), and thus the practice of entrepreneurial investment requires good judgment in altering existing methods to fit this new context. The class is intended to both broaden and deepen the understanding of finance. Second, the private equity market is becoming increasingly institutionalized. The "back of the envelope" calculations that used to suffice are not likely to prevail in the future and the course critically explores some of the latest valuation methods and assesses their usefulness. Third, new institutions are entering the private equity market and are drawing on their traditional strengths to tap to compete in this market. Banks extend loans to start-up firms, investment banks have started merchant banks to take positions in start up companies, and non-bank financial institutions lease equipment against the value of intellectual property. We examine the strategies of these institutions and the potential challenges they face. A final reason to study private equity is that young companies often face extraordinary challenges. In financial markets, there is a strong relationship between "challenge" and complexity. Professional managers must prepare to handle complexity and, in so doing, understand the implications of their decisions beyond the immediate and think creatively to resolve unforeseen problems that arise.

Overview of the Course

The private equity cycle involves several steps: fundraising, investment, and exit. The terms and success at exit influence future fund raising, and hence facilitate the next round of investment, and so forth.

In order to understand the structure of private equity partnerships, the course begins with a short module on fund raising. The partnership structure is critical to shaping the incentives and behavior of the parties involved in the deal. Inevitably there is some overlap on the topic of fund raising across entrepreneurship courses. We spend three days on it—the minimum necessary to understand the differences in general versus limited partners, the types of compensation arrangements used in private equity funds, and how returns are measured.

EFPE focuses primarily on the investment phase of the private equity cycle and examines the investment strategy, management, valuation, and structure of ventures in their formative stages prior to becoming public companies. The classes are sequenced to reflect the progression of investments from early to late stage.

Early Stage → **Late Stage**

Bridge loans
Raising a first round
Raising a second round
Further PE investment or IPO
Valuing patents
Mezzanine lending
Buyouts

The sequencing of the course material from early stage to late stage is intended to provide a perspective on how financing and valuation change over the life-cycle of a firm. There are many judgments in finance that rely on an intuitive sense of the capability and maturity of an organization. How much uncertainty must be resolved for an investment to move from early stage to late stage in an investor's mind? The rate of resolution of uncertainty plays a critical role in the value of enterprises, in the returns required by investors, in the type of available financing, and the structure of the deal. It is intended that this sequence and the class discussions will help identify the factors that are most influential in shaping the development of enterprises.

Course material and requirements

Course materials: All of the cases and readings for the course are contained in a course pack that can be purchased in the Darden bookstore.

Pre-requisites: *Valuation in Financial Markets* is a pre-requisite for the class due to the over-riding emphasis on the value of venture companies and the prevalence of contingent and option-based financing in high-risk firms.

Grade: The grade in the class will be based on class participation (35%) and a take home exam (65%). The take-home exam is due Wednesday, December 11 at 5:00 pm.

Class participation: Your attendance and participation are essential ingredients to a successful class. Absence from more than two classes, without extenuating circumstances (e.g., illness, family emergency), will adversely affect your grade. Please call or email me to explain absences.

Reference Resources:

The Batten Institute Risk Capital Initiative web page and my faculty home page have links to the "Private Equity Portal." The portal provides of number of valuable resources and links to information on private equity.
The link is: http://faculty.darden.virginia.edu/chaplinskys/PEPortal/index.htm

The Camp Library has some special resources in private equity:

Venture Economics (VentureXpert) is a database of private equity financings. *Venture Economics* gives the history of financing and prices paid by round for venture companies, fund performance statistics, and capital commitments.

Securities Data Corporation (SDC) database provides information on securities issued (IPOs, high yield debt) and corporate transactions (M&A, spin-offs) in the U.S. and internationally and their terms. The pricing of public company comparables often provides an upper bound valuation for private companies.

Placementtracker.com provides comprehensive information on Private Placements by Public Companies (PIPEs). Transaction Reports are available on every closed PIPE transaction since 1995. Access to the membership portion of placementtracker's website and data requires my permission.

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Schedule of Assignments and Questions for Advanced Preparation

Fund Raising

Class # 1 – Monday, October 21, 2002

Case: **Fox Venture: Enriching the Private Equity Investor Poo**l (9-296-041)

Reading: Legal Aspects of Financing the Emerging .Company With Venture Capital and Public Issues", pp. 1-10 (UVA-F-1276)

Network File: Fox Venture Partners Ex 5.xls.

1. How does FOX Venture Partners propose to create value for its investor? Are their arguments plausible?

2. How much do Frazier and Lawrence charge for their services (see Exhibit 5)? What increment to performance would be required to justify their fees?

3. Would you invest in the FVP fund? Why have individual investors been reluctant to invest so far? Is the problem in the concept of the fund, or the way that Frazier and Lawrence have marketed the concept?

4. Why have venture capitalists been interested in having FVP as a potential investor? What explains their interest in having wealthy individuals as investors in their funds? Are Frazier and Lawrence's hopes of having a broader impact on the private equity industry realistic?

5. More generally, when do intermediaries add value to private equity investing?

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Class # 2 – Tuesday, October 22, 2002

Measuring Returns

Case: **Acme Investment Trust** (9-296-042)

Reading: "Note on Private Equity Partnership Agreements" (9-294-084)

Network File: none

1. Why is Warburg proposing a new fee structure from the standard arrangement?

2. More generally, why are the incentives offered venture capitalists (Exhibit 4) so similar?

3. What are the financial implications of the shift? In particular, how does Warburg's compensation change? To examine this question you may wish to compare the net present value of their management fee with the variable compensation. (You may want to use a discount rate of 15%). The following assumptions may help:

   - The fund has a 12-year life, with committed capital (the total amount of funds that the investors have promised to provide) of $2 billion.

   - The funds are received in six equal installments, at the beginning of the first six years of the fund.

   - The management fee is either 1.5% or 1% of capital (not including those funds that are promised but have not yet been provided by the investors), payable in advance at the beginning of the year.

   - The fund's assets (not including those funds that are promised but have not yet provided by the investors) grow at a steady rate each year. Three representative rates are 5%, 20%, and 35%.

   - At the end of the sixth year, 20% of the value of the partnership's assets is returned at that time to the investors. At the end of the each subsequent year, 20% of the value of the assets is distributed. At the end of the twelfth year, all the partnerships' assets are distributed.

   - Warburg receives either 15% or 20% of all distributions, but not until the investors have received distributions equal to their committed capital ($2 billion).

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Class #3 – Wednesday, October 23, 2002

International Fund Raising

Case: **JAFCO American Ventures, Inc: Building a Venture Capital Firm**

Optional Reading: "Distribution Management", Credit Suisse Asset Management, First Quarter 2002. This article provides updated information on portfolio benchmarks. It is available on the class website, PVCI.pdf.

Network File: JAFCO.xls

This case describes the second attempt at entry of JAFCO, a large Japanese venture capital firm, into the U.S. market. The U.S. subsidiary, JAFCO American Ventures (JAV), is experiencing a challenging turnaround.

1. What is your assessment of JAV's performance to date? What is your assessment of JAV's USITI fund performance to date?
2. What are JAV's Challenges over the next five years?
3. Would you advise Barry Schiffman and his colleagues to move into seed stage investing? Should they move into life sciences?
4. How can JAFCO learn from JAV?
5. How should JAFCO change its incentive system, it at all?

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Early Stage

Class #4- Monday, October 28, 2002

Lecture: Valuation

Readings:

1. "Valuation Issues in Start-Ups & Early-Stage Companies: The Venture, Capital Method," London Business School, December 1997.

2. "Private Company Valuation," Aswath Damodaran. This article is too long for reading in one sitting but it is a good on-going reference (in short form) for a broad range of issues that arise in valuing private companies.

Optional Reading on Website:

"The Private Company Discount," *Journal of Applied Corporate Finance*, Vol 12, N0.4, Winter 2000, pp. 94-101. This article is a useful article describing how multiples can be adjusted in a private equity setting.

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Class #5 – October 29, 2002

Bridge Loans to Start Ups

Case: **Xedia and Silicon Valley Bank** (9-298-119)

Network File: none

1. Is the Silicon Valley Bank strategy appropriate for these types of risks?
2. Should Xedia be seeking financing from SBV? Does it make sense? What are the risks?
3. How would Xedia's venture capital investors feel about the bridge loan?
4. Is the loan to Xedia in the best interest of SBV?
5. What is an appropriate interest rate to charge Xedia? Why?
6. Should the loan include warrants? Stronger covenants?

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Class #6 – Monday, November 4, 2002

First Round of Venture Financing

Case: **MinderSoft, Inc**. (UVA-F-1346)

Network File: Mindersoft.xls

1. How good an investment opportunity is Mindersoft? What are the key strengths and weaknesses of the opportunity and business plan? What is the business model - how do they make money?

2. The pre-money valuations differ by a wide margin: Mr. Biddle places the pre-money value at $3 M, Mr. Chapin at $10M: Why do the values differ so?

3. From the entrepreneur's point of view, what is the company worth?

4. How will Novak Biddle Venture Partners evaluate Mindersoft?

5. If you were Steve Chapin, would you accept Novak Biddle's offer or search elsewhere?

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Class #7 – Tuesday, November 5, 2002

Term Sheets

Case: **SecureNet: Series A Round**

Optional Reading: "Understanding Term Sheets," Aspatore Publishing

Network File: SecureNet (A).xls

Guest Speaker: Professor April Triantis, UVA Law School

1. What is the post-money value and per-share price of SecureNet *prior* to the Series A round? After the Series A round - if the offer is accepted as proposed?

2. What are the implications to Trio if another investor offers to provide SecureNet an additional $3 million in equity after the Series A round at a price of $8 per share? At $1 per share?

3. What incentives are built into the Series A round to motivate Goodson? Are they sufficient incentives in your opinion?

4. Based on the term sheet for the Series A round, would you say it generally favors the Entrepreneur of the Angel Investor? Be sure to cite specific terms and features of the contract to support your opinion.

5. Is the $1.4 million offer from Trio, LLC an adequate price for a 40% stake in SecureNet?

6. If you were Mr. Goodson, would you reject the offer and seek out a more experienced venture capitalist, accept Trio's offer as proposed, or attempt to negotiate certain terms of the offer? If you choose to negotiate, what adjustments would you seek to make?

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Class #8 – Monday, November 11, 2002

Case: **USInternetworking: Second Round** (UVA-F-1273)

Optional Reading: Expansion projects can also be viewed from a real options perspective. "The Promise of Real Options," Aswath Damordaran, *Journal of Applied Corporate Finance*, Summer 2000 is a good article stressing the financial applications of real options. Expansion options are covered in "option to expand," pp. 38-43

Network File: USi(second round).xls

1. Assess McCleary's three-stage strategy for building USi? What implications does this strategy have for the financing he will require.

2. What were the pre- and post-money valuations of the firm after completion of the first round?

3. Grotech Capital originally passed on the opportunity to fund USi? What were Frank Adam's concerns then? How valid are these concerns in September 1998?

4. Should Frank Adams agree to participate in a second round for USi? To lead the round? If so, at what price?

5. If you were Chris McCleary, at what price would you sell additional equity in USi?

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Class #9 – Tuesday, November 12, 2002

Problems of Down Markets

Case: **Phoenix Capital and Intellivoice**

Network File: Phoenixcapital.xls

Guest Speaker: John May, Managing Director, New Vantage Group

1. What value could IntelliVoice potentially receive if it were sold for its current post-money valuation?
2. What value could IntelliVoice potentially receive if it were sold to a strategic buyer in the market?
3. How much would the values potentially received in questions 1 and 2 help Phoenix's rate of return?
4. If George Kostanza decides to keep Intellivoice how much, if at all, should he invest of the $5 million needed? What factors should he take into account when deciding whether or not to invest further in IntelliVoice?
5. Based on current market conditions and IntelliVoice's future prospects, what would be your recommendation to Kostanza? What is your plan for dealing with the fund's limited partners?

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<u>Middle Stage</u>

<u>Class #10 – Monday, November 18, 2002</u>

Patent Valuation

Case: **Aberlyn Capital** (9-294-083)

Reading: Methods of Intellectual Property Valuation

Optional Reading: *A Note on Venture Leasing* (9-294-069) This note is useful for those unfamiliar with the industry practices in venture leasing.

Network File: none

1. How does venture leasing differ from traditional venture capital investing? In what ways is it similar?

2. Aberlyn proposes to lend RhoMed $1 million. RhoMed will make three even payments of principal, at the end of years 1, 2, and 3, as well as 15% interest on the amount outstanding before the repayment. For example, at the end of the first year, RhoMed will pay $333,333 of principal, plus $150,000 of interest ($1,000,000* 15%). In addition, Aberlyn receives about 70,000 warrants. Each warrant allows it to purchase one RhoMed share for $1.45 at any point over the next five years.

3. How did Aberlyn calculate how many warrants it should receive? Does the warrant exercise price of $1.45 reflect RhoMed's value.

4. What is the real rate of return to Aberlyn? To calculate this, you will need to compute the value of the options using the information above and in the case. Foot note 9 in the case provides two suggestions of value.

5. Does the valuation of the patent to be transferred to Aberlyn as part of the FLIP, reproduced in Exhibit 8, appear to be reasonable?

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Class #11 – Tuesday, November 19, 2002

Exit Strategy

Case: **USInternetworking: Third Round**

Network File: USi(third round).xls

Guest Speaker: John May, Managing Director, New Vantage Group

1. How much progress has USi made from the second-round to the third-round decision? Is USi "ready" to go public?

2. In actuality, how divergent are McCleary's and Frank Adams' view of the situation?

3. Chris McCleary seems concerned about the dilution that might occur with another round of private equity. How would an IPO prevent this?

4. Estimate the value of USi with a third round of private equity versus an IPO.

5. Assuming Adams has the upper hand here, which alternative should he choose?

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Late Stage and Buyouts

Class #12 – Monday, November 25, 2002

LBO

Case: **The Exxel Group: September 1995** (9-297-068)

Optional Reading: "Practices of Active Private Equity Firms in Latin America." (UVA-F-1336)

Network File: EXXEL.xls

1. How is investing in emerging market countries similar to or different from investing in the United States? In Europe?

2. How has Navarro gone about developing a "franchise" for Exxel in Argentina? How has his relationship with Oppenheimer evolved? What are the strengths or weaknesses of this form of international private equity organization?

3. Is Argencard an attractive investment? Why or why not? How reasonable is the valuation that Exxel proposes to pay?

4. Why has Exxel chosen the particular structure that it has for the proposed transaction? What are likely to be the objections that U.S. private equity organizations that are considering investing in the deal will raise about the proposed term sheet (reproduced in Exhibit 10)?

5. What opportunities and challenges will Exxel face as the Argentine private equity market evolves? As the U.S. private equity evolves?

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<u>Class #13 – Tuesday, November 26, 2002</u>

Mezzanine Financing

Case: **BCI GROWTH III** – May 1993 (9-298-093)

Network File: BCI.xls

1. How do the Casella brothers propose to create value in a mature industry such as waste haulage and disposal? What are the key risks associated with their roll-up strategy?

2. To what extent to the financial projections provided by Casella and Bohlig help Remey assess the risks and rewards of the transaction: What are their key limitations?

3. Remey worries that this transaction will offer mezzanine returns for venture capital-type risks. Are these concerns reasonable? Should BCI undertake the Casella investment?

4. BCI Advisors has sought to differentiate itself by specializing in "mezzanine" private equity investments. What are the key strengths and weaknesses of their strategy? Is their strategy likely to be sustainable in view of the growth of the private equity industry?

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<u>Class #14 – Monday, December 2, 2002</u>

Transfer of Family Ownership

Case: **Fojtasek Co. and Heritage Partners – March 1995** (9-297-046)

Network File: Fojtasek.xls

1. What is the Fojtasek family's problem?

2. How do each of the three possibilities that the family is considering—a buyout, a leveraged re-capitalization, and a "Private IPO—address its needs? What are the key concerns about each transaction?

3. How reasonable is the payment for Fojtasek being offered by Heritage? How onerous are the control rights that it is demanding? What would you recommend the Fojtasek family do?

4. How common a problem is the Fojtasek family's dilemma? Does Heritage's "Private IPO" represent a more general solution to such problems?

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Class #15 – Tuesday, December 3, 2002

Could it happen again?: Lessons from the recent past
Class Wrap-up

Readings: TBA

Exam Date: Take home exam: Due Wednesday, December 11, 5:00 pm.