Research in Entrepreneurial Finance, FINC B9341	
Instructor	Prof. Michael Ewens
Place	Kravis 630
Time	Tues. 9:00 am - 12:15 pm
Contact	michael.ewens@columbia.edu
Office hours	Email professor
Course website	https://entrepreneurial.finance

Course summary

"Research in Entrepreneurial Finance" explores academic research covering the formation, financing, growth and outcomes of entrepreneurial firms. These firms differ from those traditionally studied in finance and economics. Such differences include ownership structure (private vs. public), size, severity of financing constraints, and the role of financial intermediaries. This course aims to understand the sources and implications of these differences. The course will not follow the traditional approach that emphasizes literature reviews. Much like one must understand how bank balance sheets work before embarking on a banking paper or how mutual fund disclosures are regulated before studying ETFs, successful entrepreneurial finance researchers are required to understand a host of rules, norms and other institutional details. Thus, the majority of lectures will focus on the background material behind the literature's major results such as regulations, data sources, actor norms and industry trends.[1]

Goals and teaching methodology

Each course module/week focuses on two to three academic papers, with two goals in mind. First, students will first learn about the major research questions, facts and methods used in the literature. Papers will be both empirical and theoretical, with an emphasis on the former. Second, the course will include background or institutional setting lectures. Here, we will evaluate each week's major paper with the following question in mind: "What major institutional setting do I need to understand to successfully replicate this paper or understand the economic phenomenon tested?"

Students will be taught material so that they are prepared for detailed institutional detail questions about their research setting. This component of the class is motivated by what drives publication success in the entrepreneurial finance literature: researchers must have a deep understanding of the institutional setting, actor (e.g., investor) norms, regulations, laws, and available datasets. For example, interpreting or expanding the Levine and Rubenstein paper "Smart and illicit. Who becomes an entrepreneur and do they earn more?" (QJE) demands you understand if and how firms incorporate, equity compensation structures, and the multiple forms of entrepreneurship.

This foundation of institutional knowledge provides many benefits:

- where to find data (or where not to look)

[1] One alternative would be for the student to take (or TA for) a MBA elective in a related area. While this method will go a long way towards achieving this course's goals, our academic researcher perspective results in a different focus and framing.

- finding and evaluating potential natural experiments
- ability to convey a paper's identifying variation
- mastery of the main set of mechanisms and omitted variables in observational studies
- framework when building field experiments

Course topic overview

The major questions addressed in the course will include:

- What is entrepreneurship?
- Who becomes an entrepreneur and forms a firm?
  - How does one form a new firm? What are the organizational form choice? What role do taxes and legal liability play? What disclosure rules limit researchers' ability to observe these choices?
- What financing constraints do entrepreneurial firms face and how are they overcome?
  - How does financing of innovation differ from "traditional" investments?
- Who are the major investor types in entrepreneurial firms and how to they solve financing constraints?
  - What role does entrepreneurial wealth or assets play in financing choice?
  - Why do financial intermediaries play such a prominent role and what are their financing constraints?
- How does entrepreneurial firm capital structure differ from established firms and why does it matter?
- How are public and private capital markets differ and connected? What role does each play in entrepreneur and investor returns?
  - What is the risk and return of investments in entrepreneurial firm for equity investors?

Prerequisites

Students are expected to have completed the first year sequence. Understanding of basic corporate finance, economics, and standard econometrics will be assumed.

Readings

All readings will be available on Canvas (see list below).

Suggested additional materials

- Da Rin, Marco, and Thomas Hellmann. *Fundamentals of entrepreneurial finance*. Oxford University Press, 2020.
- Gompers, Paul Alan, and Joshua Lerner. *The venture capital cycle*. MIT press, 2004.
- Metrick, Andrew, and Ayako Yasuda. *Venture capital and the finance of innovation*. John Wiley & Sons, 2021.
- Parker, Simon C. *The economics of entrepreneurship*. Cambridge University Press, 2018.
- Lerner, Joshua, Ann Leamon, and Felda Hardymon. *Venture capital, private equity, and the financing of entrepreneurship: The power of active investing*. Hoboken, NJ, USA: John Wiley & Sons, 2012.
- Jeffrey M Wooldridge, 2010. *Econometric Analysis of Cross Section and Panel Data*, The MIT Press, edition 2, volume 1.

Assignments

Students should read the week's main academic paper and institutional setting references (TBD). During the course of the term, students will prepare two written referee reports (details below). The final project is a student paper on a major institutional setting from a recent (TBD) paper in entrepreneurial finance.

Grades

- two referee reports: 50% of grade
- final prepared writeup: 50% of grade

Course structure

Each week of the six week term will focus on 2-3 related foundational papers associated with its research question. The first meeting will cover the motivation, research question, results and implications of the research topic. This will be followed by an in-depth discussion of the institutional background, database, historical event or market setting that must be understood to interpret the results using the 2-3 papers as a framework.

- Week 1: Entrepreneurial firm formation and organizational form
- Week 2: Capital constraints
- Week 3: Capital sources: entrepreneur wealth and banks
- Week 4: Financial intermediaries

- Week 5: Financial intermediaries continued; capital structure
- Week 6: Capital markets, exits and investor returns
- Finals week: student reports due

Tentative Schedule

The second half of each class session will be an institutional details review related to the week's topic.

TUESDAY	
$\boxed{\text{Oct 23rd}}$ Course intro.; Entrepreneurial firms	**1**
30th Capital constraints; personal wealth	**2**
$\boxed{\text{Nov 6th}}$ Banks and housing Referee report #1 due	**3**
13th Financial intermediaries	**4**
20th Capital structure and contracts Referee report #2 due	**5**
27th Capital markets	**6**

Detailed outline and readings

"Required readings" should be prepared before class, while "Additional readings" are suggested for additional background or applications.

See Canvas and course website for more details on each week.

Papers may be added or subtracted (with warning).

- **Week 1: Entrepreneurial firm formation and organizational form**
  - Questions to answer
    - Q1: What is the entrepreneurial firm (in this class)?
    - Q2: How do these firms differ from their non-entrepreneurial peers?
    - Q3: What are the major research questions in entrepreneurial finance?
    - Q4: What do we know about the entrepreneurial entry decision?
  - Required readings
    - Hurst, E. and Pugsley, B.W. (2011) 'What Do Small Businesses Do?', Brookings Papers on Economic Activity, 2011(2), pp. 73–118.
    - Levine, R. and Rubinstein, Y. (2017) 'Smart and Illicit: Who Becomes an Entrepreneur and Do They Earn More?*', The Quarterly Journal of Economics, 132(2), pp. 963–1018.

    Additional readings
    - How do entrepreneurial firms differ?
      - Adelino, M., Ma, S. and Robinson, D. (2017) 'Firm Age, Investment Opportunities, and Job Creation', The Journal of Finance, 72(3), pp. 999–1038.
      - Azoulay, Pierre, Benjamin F. Jones, J. Daniel Kim, and Javier Miranda. "Age and high-growth entrepreneurship." American Economic Review: Insights 2, no. 1 (2020): 65-82.
      - Davis, S.J. et al. (2006) 'Volatility and Dispersion in Business Growth Rates: Publicly Traded versus Privately Held Firms [with Comments and Discussion]', NBER Macroeconomics Annual, 21, pp. 107–179.
      - Decker, R. et al. (2014) 'The Role of Entrepreneurship in US Job Creation and Economic Dynamism', Journal of Economic Perspectives, 28(3), pp. 3–24.
      - Kerr, W.R. and Nanda, R. (2015) 'Financing Innovation', Annual Review of Financial Economics, 7(1), pp. 445–462.
      - Kortum, S. and Lerner, J. (2000) 'Assessing the Contribution of Venture Capital to Innovation', The RAND Journal of Economics, 31(4), pp. 674–692.
    - Entry into entrepreneurship
      - Astebro, T. et al. (2014) 'Seeking the Roots of Entrepreneurship: Insights from Behavioral Economics', Journal of Economic Perspectives, 28(3), pp. 49–70.
      - Blanchflower, D.G. and Oswald, A.J. (1998) 'What Makes an Entrepreneur?', Journal of Labor Economics, 16(1), pp. 26–60.
      - Evans, D.S. and Jovanovic, B. (1989) 'An Estimated Model of Entrepreneurial Choice under Liquidity Constraints', Journal of Political Economy, 97(4), pp. 808–827.

- Gompers, P., Lerner, J. and Scharfstein, D. (2005) 'Entrepreneurial Spawning: Public Corporations and the Genesis of New Ventures, 1986 to 1999', The Journal of Finance, 60(2), pp. 577–614.
- Hall, R.E. and Woodward, S.E. (2010) 'The Burden of the Nondiversifiable Risk of Entrepreneurship', American Economic Review, 100(3), pp. 1163–1194.
- Hamilton, B.H. (2000) 'Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-Employment', Journal of Political Economy, 108(3), pp. 604–631.
- Hvide, H.K. and Panos, G.A. (2014) 'Risk tolerance and entrepreneurship', Journal of Financial Economics, 111(1), pp. 200–223.
- Kihlstrom, R.E. and Laffont, J.-J. (1979) 'A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion', Journal of Political Economy, 87(4), pp. 719–748.
- Lazear, E.P. (2004) 'Balanced Skills and Entrepreneurship', American Economic Review, 94(2), pp. 208–211.
- Levine, R. and Rubinstein, Y. (2017) 'Smart and Illicit: Who Becomes an Entrepreneur and Do They Earn More?*', The Quarterly Journal of Economics, 132(2), pp. 963–1018.
- Manso, G. (2016) 'Experimentation and the Returns to Entrepreneurship', The Review of Financial Studies, 29(9), pp. 2319–2340.
- Moskowitz, T.J. and Vissing-Jørgensen, A. (2002) 'The Returns to Entrepreneurial Investment: A Private Equity Premium Puzzle?', American Economic Review, 92(4), pp. 745–778.
- Puri, M. and Robinson, D.T. (2007) 'Optimism and economic choice', Journal of Financial Economics, 86(1), pp. 71–99.

- **Week 2: Capital constraints**
  - Questions to answer
    - Q1: What are the broad financing constraints faced by entrepreneurs?
    - Q2:Why do we care whether potential entrepreneurs are financially constrained?
    - Q3: What role does personal wealth play in supporting entrepreneurial entry?
  - Required readings
    - Cagetti, Marco, and Mariacristina De Nardi. "Entrepreneurship, frictions, and wealth." Journal of political Economy 114.5 (2006): 835-870.
    - Hombert, J., Schoar, A., Sraer, D., & Thesmar, D. (2020). Can unemployment insurance spur entrepreneurial activity? Evidence from France. The Journal of Finance, 75(3), 1247-1285.

    Additional readings
    - Capital constraints
      - Blanchflower, D.G. and Oswald, A.J. (1998) 'What Makes an Entrepreneur?', Journal of Labor Economics, 16(1), pp. 26–60.
      - Cagetti, Marco, and Mariacristina De Nardi. "Entrepreneurship, frictions, and wealth." Journal of political Economy 114.5 (2006): 835-870.

- Evans, D.S. and Jovanovic, B. (1989) 'An Estimated Model of Entrepreneurial Choice under Liquidity Constraints', Journal of Political Economy, 97(4), pp. 808–827.
- Gentry, W.M. and Hubbard, Glenn .R.- (2004) 'Entrepreneurship and Household Saving', The B.E. Journal of Economic Analysis & Policy, 4(1), pp. 1–57.
- Hurst, E. and Lusardi, A. (2004) 'Liquidity Constraints, Household Wealth, and Entrepreneurship', Journal of Political Economy, 112(2), pp. 319–347.
- Kerr, W.R. and Nanda, R. (2011) Financing Constraints and Entrepreneurship, Handbook of Research on Innovation and Entrepreneurship.
- Rajan, R.G. (2012) 'Presidential Address: The Corporation in Finance', The Journal of Finance, 67(4), pp. 1173–1217.
- Stiglitz, J.E. and Weiss, A. (1981) 'Credit Rationing in Markets with Imperfect Information', The American Economic Review, 71(3), pp. 393–410.

* Personal wealth, taxes and employment
  - Bellon, A., Cookson, J. A., Gilje, E. P., & Heimer, R. Z. (2021). Personal wealth, self-employment, and business ownership. The Review of Financial Studies, 34(8), 3935-3975.
  - Herkenhoff, K., Phillips, G.M. and Cohen-Cole, E. (2021) 'The impact of consumer credit access on self-employment and entrepreneurship', Journal of Financial Economics, 141(1), pp. 345–371.
  - Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen. "Entrepreneurial decisions and liquidity constraints." The Rand Journal of Economics 25.2 (1994): 334.
  - Hombert, J., Schoar, A., Sraer, D., & Thesmar, D. (2020). Can unemployment insurance spur entrepreneurial activity? Evidence from France. The Journal of Finance, 75(3), 1247-1285.
  - Tsoutsoura, M. (2015) 'The Effect of Succession Taxes on Family Firm Investment: Evidence from a Natural Experiment', The Journal of Finance, 70(2), pp. 649–688.

- **Week 3: Capital sources: entrepreneur wealth and banks**
  - Questions to answer
    * Q1:How are housing markets and housing equity connected to entrepreneurship and do the connections tell us about financing constraints?
    * Q2: What role do banks – availability, distance and competition – play in entrepreneurial firm financing?
  - Required readings
    * Petersen, M.A. and Rajan, R.G. (2002) 'Does Distance Still Matter? The Information Revolution in Small Business Lending', The Journal of Finance, 57(6), pp. 2533–2570.
    * Greenstone, M., Mas, A. and Nguyen, H.-L. (2020) 'Do Credit Market Shocks Affect the Real Economy? Quasi-experimental Evidence from the Great Recession and "Normal" Economic Times', American Economic Journal: Economic Policy, 12(1), pp. 200–225.

        * Schmalz, M.C., Sraer, D.A. and Thesmar, D. (2017) 'Housing Collateral and Entrepreneurship', The Journal of Finance, 72(1), pp. 99–132.

        Additional readings
        * Housing
            · Adelino, M., Schoar, A. and Severino, F. (2015) 'House prices, collateral, and self-employment', Journal of Financial Economics, 117(2), pp. 288–306.
            · Davis, S.J. and Haltiwanger, J.C. (2019) 'Dynamism Diminished: The Role of Housing Markets and Credit Conditions'. National Bureau of Economic Research (Working Paper Series).
            · Jensen, T.L., Leth-Petersen, S. and Nanda, R. (2022) 'Financing constraints, home equity and selection into entrepreneurship', Journal of Financial Economics, 145(2, Part A), pp. 318–337.
            · Kerr, S.P., Kerr, W.R. and Nanda, R. (2022) 'House prices, home equity and entrepreneurship: Evidence from U.S. census micro data', Journal of Monetary Economics, 130, pp. 103–119.
            · Schmalz, M.C., Sraer, D.A. and Thesmar, D. (2017) 'Housing Collateral and Entrepreneurship', The Journal of Finance, 72(1), pp. 99–132.
        * Banks
            · Berger, A.N. et al. (2005) 'Does function follow organizational form? Evidence from the lending practices of large and small banks', Journal of Financial Economics, 76(2), pp. 237–269.
            · Black, S.E. and Strahan, P.E. (2002) 'Entrepreneurship and bank credit availability', The Journal of Finance, 57(6), pp. 2807–2833.
            · Cerqueiro, G. and Penas, M.F. (2017) 'How Does Personal Bankruptcy Law Affect Startups?', The Review of Financial Studies, 30(7), pp. 2523–2554.
            · Greenstone, M., Mas, A. and Nguyen, H.-L. (2020) 'Do Credit Market Shocks Affect the Real Economy? Quasi-experimental Evidence from the Great Recession and "Normal" Economic Times', American Economic Journal: Economic Policy, 12(1), pp. 200–225.
            · Petersen, M.A. and Rajan, R.G. (1994) 'The Benefits of Lending Relationships: Evidence from Small Business Data', The Journal of Finance, 49(1), pp. 3–37.
            · Petersen, M.A. and Rajan, R.G. (2002) 'Does Distance Still Matter? The Information Revolution in Small Business Lending', The Journal of Finance, 57(6), pp. 2533–2570.
            · Rice, T. and Strahan, P.E. (2010) 'Does Credit Competition Affect Small-Firm Finance?', The Journal of Finance, 65(3), pp. 861–889.

- **Week 4: Financial intermediaries**
    - Questions to answer
        * Q1: What is venture capital and angel financing?
        * Q2: If and how do financial intermediaries solve financing frictions faced by entrepreneurial firms?
    - Required readings

- Bernstein, S. et al. (2022) 'Do Startups Benefit from Their Investors' Reputation? Evidence from a Randomized Field Experiment'.
- Gompers, Paul A., Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. "How do venture capitalists make decisions?." Journal of Financial Economics 135, no. 1 (2020): 169-190.
- Hsu, D. H. (2004). What do entrepreneurs pay for venture capital affiliation?. The journal of finance, 59(4), 1805-1844.

Additional readings

- Bernstein, S., Giroud, X. and Townsend, R.R. (2016) 'The Impact of Venture Capital Monitoring', The Journal of Finance, 71(4), pp. 1591–1622.
- Bernstein, S., Korteweg, A. and Laws, K. (2017) 'Attracting Early-Stage Investors: Evidence from a Randomized Field Experiment', The Journal of Finance, 72(2), pp. 509–538.
- Bottazzi, L., Da Rin, M. and Hellmann, T. (2008) 'Who are the active investors?: Evidence from venture capital', Journal of Financial Economics, 89(3), pp. 488–512.
- Chemmanur, T. J., Krishnan, K., & Nandy, D. K. (2011). How does venture capital financing improve efficiency in private firms? A look beneath the surface. The Review of Financial Studies, 24(12), 4037-4090.
- Denes, M. R., Howell, S. T., Mezzanotti, F., Wang, X., & Xu, T. (2020). Investor tax credits and entrepreneurship: Evidence from US states (No. w27751). National Bureau of Economic Research.
- Gompers, Paul A., Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. "How do venture capitalists make decisions?." Journal of Financial Economics 135, no. 1 (2020): 169-190.
- Hellmann, T. and Puri, M. (2002) 'Venture Capital and the Professionalization of Start-Up Firms: Empirical Evidence', The Journal of Finance, 57(1), pp. 169–197.
- Puri, M. and Zarutskie, R. (2012) 'On the Life Cycle Dynamics of Venture-Capital- and Non-Venture-Capital-Financed Firms', The Journal of Finance, 67(6), pp. 2247–2293.
- Rin, M.D., Hellmann, T. and Puri, M. (2013) 'Chapter 8 - A Survey of Venture Capital Research', in G.M. Constantinides, M. Harris, and R.M. Stulz (eds) Handbook of the Economics of Finance. pp. 573–648.
- Sørensen, M. (2007). How smart is smart money? A two-sided matching model of venture capital. The Journal of Finance, 62(6), 2725-2762.

- **Week 5: Contracts and capital structure**
  - Questions to answer
    - Q1: What factors drive the contracting between entrepreneur and investor?
    - Q2: What are the patterns of contracting and security design in venture capital-backed startups?
    - Q3: What does the capital structure of the entrepreneurial firm look like?

- Required readings
  - Kaplan, S.N. and Strömberg, P. (2004) 'Characteristics, Contracts, and Actions: Evidence from Venture Capitalist Analyses', The Journal of Finance, 59(5), pp. 2177–2210.
  - Robb, A.M. and Robinson, D.T. (2014) 'The Capital Structure Decisions of New Firms', The Review of Financial Studies, 27(1), pp. 153–179.
  - Amornsiripanitch, N., Gompers, P.A. and Xuan, Y. (2019) 'More than Money: Venture Capitalists on Boards', The Journal of Law, Economics, and Organization, 35(3), pp. 513–543.

  Additional readings
  - Facts about contracts and capital structure
    - Ewens, Michael, Alexander Gorbenko, and Arthur Korteweg. "Venture capital contracts." Journal of Financial Economics 143.1 (2022): 131-158.
    - Kaplan, S.N. and Strömberg, P. (2003) 'Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts', The Review of Economic Studies, 70(2), pp. 281–315.
  - Theory about contracts
    - Admati, Anat R., and Paul Pfleiderer. "Robust financial contracting and the role of venture capitalists." The Journal of Finance 49.2 (1994): 371-402.
    - Aghion, P. and Tirole, J. (1994) 'The Management of Innovation', The Quarterly Journal of Economics, 109(4), pp. 1185–1209.
    - Cornelli, F. and Yosha, O. (2003) 'Stage Financing and the Role of Convertible Securities', The Review of Economic Studies, 70(1), pp. 1–32.
    - Gompers, P.A. (1995) 'Optimal Investment, Monitoring, and the Staging of Venture Capital', The Journal of Finance, 50(5), pp. 1461–1489.
    - Hellmann, T. (1998) 'The Allocation of Control Rights in Venture Capital Contracts', The RAND Journal of Economics, 29(1), pp. 57–76.
    - Neher, D.V. (1999) 'Staged Financing: An Agency Perspective', The Review of Economic Studies, 66(2), pp. 255–274.

- **Week 6: Capital markets, exits and investor returns**
  - Questions to answer
    - Q1: What drives a private firm to go public?
    - Q2: What happens to firms after they go public?
  - Required readings
    - Ewens, M. and Farre-Mensa, J. (2020) 'The Deregulation of the Private Equity Markets and the Decline in IPOs', The Review of Financial Studies, 33(12), pp. 5463–5509.
    - Bernstein, S. (2015). Does going public affect innovation?. The Journal of finance, 70(4), 1365-1403.

    Additional readings
    - Empirical facts

- Black, B.S. and Gilson, R.J. (1998) 'Venture capital and the structure of capital markets: banks versus stock markets', Journal of Financial Economics, 47(3), pp. 243–277.
- Brau, J. C., & Fawcett, S. E. (2006). Initial public offerings: An analysis of theory and practice. The Journal of Finance, 61(1), 399-436.
- Doidge, C., Karolyi, G.A. and Stulz, R.M. (2017) 'The U.S. listing gap', Journal of Financial Economics, 123(3), pp. 464–487.
- Maksimovic, V. and Pichler, P. (2001) 'Technological Innovation and Initial Public Offerings', The Review of Financial Studies, 14(2), pp. 459–494.
- Pagano, M., Panetta, F. and Zingales, L. (1998) 'Why Do Companies Go Public? An Empirical Analysis', The Journal of Finance, 53(1), pp. 27–64.
- Zingales, L. (1995) 'Insider Ownership and the Decision to Go Public', The Review of Economic Studies, 62(3), pp. 425–448. A

* Theory about going public
  - Chemmanur, T.J. and Fulghieri, P. (1999) 'Theory of the Going-Public Decision', The Review of Financial Studies.
  - Ferreira, D., Manso, G. and Silva, A. (2014) 'Incentives to Innovate and the Decision to Go Public or Private', The Review of Financial Studies.

Assignment details

Referee Reports

Use the following guidelines when preparing an assigned referee report.

Length: 4 - 5 pages, double-spaced (this is a great opportunity to learn TEX) Good referee report: Summarizes quickly, makes a few solid suggestions and criticisms and backs them up. Bad referee report: Only summarizes or focuses on technicalities.

A referee report should have the following pieces:[2]

1. **Summarize the paper**.

   The summary should be short (<1 page), and should state what the objectives of the paper are, and how the authors set out to accomplish these objectives. This is also a place to say why this objective is interesting or important, and where this fits into an overall literature.

2. **Assessment.**

   This is the important section of the report. Are there issues or concerns with the analysis? Are these conceptual or methodological? Do you find the evidence compelling? Why or why not? Avoid technical econometrics here, although you should be able to back up your argument with specifics on the empirical work, if relevant. It's not necessary to say whether the paper should be published or not; instead you should explain what the paper does or does not accomplish: "I think this paper is successful in attacking question X" or "the paper does not make a compelling case for X because..."

[2] Borrowed from the HBS course "Empirical Methods in Corporate Finance" syllabus.

Include in the assessment the key institutional facts that one must understand to evaluate the paper's strategy.

3. **Specific comments.**

   This is where you should raise technical issues/ econometrics/ or specific suggestions that you think would improve the analysis. Avoid generalities.

4. **Extensions/Further work.**

   How would you make the paper better? If you were to write a follow-up to this paper, what would it touch on? How would it be different?

Institutional setting writeup (final project)

TBD