

**Harvard University – Department of Economics**  
**Ec 970: Sophomore Tutorial**  
**Fall 2024**

Time: T/Th 10:30-11:45am  
Location: Harvard Hall 102

Instructor: Haiyang Zhang  
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OH: by appointment (please reach out!)

**Economics of Strategy and Entrepreneurship**

**Course Description**

Strategy and entrepreneurship are central to the performance of firms and our economy. This tutorial equips you with both academic rigor and practical insights, and explores the following questions: Why is there sustained difference in terms of firm performance? How do strategies improve a firm's chance of superior performance against its peers? How do entrepreneurs identify a business opportunity? What are the considerations for venture financing and deal structure? The tutorial provides an overview of classic theories, empirical evidence, as well as managerial and policy insights, and is most relevant for would-be entrepreneurs, strategists, as well as those interested in further academic training in such topics.

**Prerequisites**

Econ 1010a/1011a and a course in introductory statistics is required. Prior or concurrent econometrics will be helpful but is not required. Excitement about strategy and entrepreneurship and a commitment to putting in the work to understand the relevant material is the most important prerequisite.

**About Me**

I am a doctoral candidate in the Strategy Unit at Harvard Business School. Prior to pursuing a PhD, I was an engagement manager at McKinsey & Company, where I served public, private, and philanthropic organizations on strategy formulation and implementation. In my first job, I worked in market design and operations at a financial technology startup, which has now become one of the largest energy trading platforms in North America. My research draws on my strategy and entrepreneurial experiences and focuses on strategic decision-making in corporations and startups to understand how firms could ultimately create value and enhance performance.

## Course Requirements

### ***Readings, Class Participation, and Leading a Discussion*** (20%)

Class discussion is essential to getting the most out of this tutorial – both for your own engagement and for the benefit of your classmates. You must do the readings in order to be in a position to meaningfully participate. As such, you are expected to read all the assigned articles prior to class and to actively participate in class discussions. In addition, each student will be assigned to lead the classroom discussions twice over the course of the semester.

### ***Short Response Papers (1-2 pages x 6 times)*** (10%)

You are asked to submit response papers six times over the course of the semester. The articles suitable for response papers are marked with stars (\*) in the [Readings](#) section.

Each response paper should (A) *succinctly* capture the main ideas from the reading(s) *and* (B) highlight areas for discussion such as (i) questions around key assumptions, (ii) identification challenges, (iii) generalizability/external validity, (iv) connections between readings (including prior weeks), (v) opportunities to build on or extend the paper, etc. Response papers will be graded for completion. However, Response papers that only summarize the main ideas and do not highlight areas for discussion will not receive credit. Response papers should be submitted on the Canvas Site **by 9:59pm ET the evening before class**.

### ***Academic Strategy/Entrepreneurship Memo (3-5 pages)*** (10%)

This memo provides an opportunity for you to apply academic theories and concepts to practice. You will select a recent business context (either in recent past, or current) and provide strategic inputs to the CEO and/or founder of the organization for her to act on.

You can analyze a real-world strategic decision (as a chief strategy officer) and/or evaluate an entrepreneurial opportunity (as an entrepreneur/advisor). For instance, how should Netflix strategically respond to the rise of AI-generated content in the entertainment industry? How should Volkswagen reposition in competition with Chinese EV rivals? What strategic moves could a fintech startup / a decentralized finance (DeFi) platform make to disrupt traditional banking? Just some teaser questions. WSJ, Bloomberg News could be helpful in ideation.

While rooted in a real-world problem, please note that you should focus on applying the academic theories/frameworks we discuss in class (you can assume your CEO/founder is fluent in the academic style). Your memo should highlight how the academic theories we discussed apply and shed light on this opportunity as well as how the academic frameworks are limited and how they might be improved or expanded based on the realities of the specific context. This is a great way to identify potential future research opportunities to address the limitations of current theories. **Due 10/28 by 11:59pm.**

\*Please read [Writing Economics](#) (pg. 14-20) as a guide for how you should cite and reference papers in your writing.

### ***Referee Report (3-5 pages)*** (5%)

You will write a referee report for the working paper “Network competition and exclusive contracts: Evidence from [news agencies](#)” by Quan Le (2024). Your referee report should succinctly identify the research questions, describe the paper’s main contribution(s) to the literature, and identify any weaknesses/areas for improvement (both conceptually and/or

empirically). **Due 11/15 by 11:59pm.**

\*Please incorporate ideas from [Writing Economics](#) (pg. 4-6) for some tips on the mechanics of good academic writing. And I will share additional instructions on writing an academic referee report.

### ***Statistical Problem Sets (10%)***

Enrollment in Ec 970 requires completion of four statistical problem sets (completed in Stata or R) to help develop your skill in handling and analyzing data *rigorously*, with *integrity*, and *agility*. This will prove instrumental in your semester-end research paper for Ec 970 and in any other economics class that requires a research paper, and in the thesis process, should you pursue one. Big picture comfort with statistical software, and experience handling datasets, provides you with a valuable glimpse into the myriad ways in which dishonest data users can massage data to their advantage. We hope this leaves you with a healthy dose of skepticism about the data-driven analyses you might encounter in all walks of life.

You can find additional information and resources about the problem sets [here](#). The four problem sets are **due 9/20, 10/4, 10/18, 11/1**, respectively. Along with listing the PS and online resources available for completion of the PS, the link I provide includes the weekly OH schedule for support in Stata and R.

### ***Final Research Project (40%)***

This is not the kind of assignment you can put off until a couple weeks before (let alone the night before) it is due – this should be a marathon not a sprint. Doing research is hard, and it will take longer than you expect. You will almost certainly hit dead ends along the way, and it will require more time than you think to work around these challenges in data collection, coding, etc. Be prepared for this.

I have broken out some milestones to help you pace yourself. Please be proactive and put in meaningful work on your research paper early!

#### ***- Research Idea Discussion (in office hours)***

I will meet with you one-on-one to discuss your ideas and to make a plan for how you will tackle the research paper and pace yourself throughout the semester. Please come with at least two topic ideas. **Due 9/27**

\*Please read [Writing Economics](#) (pg. 10-13) as a guide for how to find a research topic.

#### ***- Research Prospectus (3-5 pages) (5%)***

This is an opportunity for you to get feedback on your early-stage idea. This prospectus should include at least these three components: (i) a clearly defined *research question*, (ii) a review of the *related literature* (put the relevant papers “in conversation” with each other and make it clear how you contribute to that conversation), and (iii) any initial *hypotheses* you hope to test. You can also include any specific challenges or areas where you would like feedback. **Due 10/11**

\*Please read [Writing Economics](#) (pg. 21-23) as a guide for how to frame your research question and review literature.

- **Research Methods (3-5 pages) (5%)**

This methods prospectus is essentially a draft of the data section of your paper. Describe your data and why it is a good setting to study your research question. Importantly, also be sure to address the strengths and limitations of your data for answering your research question. Include a table of summary statistics and any preliminary output tables (or if you don't have the full data yet, please detail specific actions you will take on specific dates in order to obtain it). **Due 11/8**

\*Please read [Writing Economics](#) (pg. 24-29) as a guide for how you should describe and present empirical results.

- **Research Paper (15-18 pages, excluding graphs and tables) (30%)**

The research paper should identify a clear research question related to strategy and/or entrepreneurship, develop testable hypotheses, empirically test these hypotheses, and thoughtfully discuss the results (including the relevant identification concerns). **Due 12/12 by 4:59pm**. This is a course-wide deadline due to the grades reporting deadline per Harvard Registrar rules. No extensions can be granted.

**Final Presentation (10%)**

During the last two sessions of the course, each student will present a polished 5-minute summary of their research paper (using slides, to be submitted by 8pm the night before the presentation) and field 5 minutes of questions. You are expected to actively engage with your peers when they present, providing feedback and questions. Presentations will be held in class 11/26 and 12/3.

In summary,

|                                     |    |
|-------------------------------------|----|
| Course attendance and participation | 20 |
| Statistical problem sets            | 10 |
| Short response papers (x6)          | 10 |
| Referee report                      | 5  |
| Academic memo                       | 5  |
| Final presentation                  | 10 |
| Final research project              | 40 |
| - Research prospectus               | 5  |
| - Research methods                  | 5  |
| - Research paper                    | 30 |

## Important Dates

| Assignment                      | Date                     |
|---------------------------------|--------------------------|
| Statistical problem set #1      | 9/20                     |
| Research idea discussion        | 9/27                     |
| Statistical problem set #2      | 10/4                     |
| Research prospectus             | 10/11                    |
| Statistical problem set #3      | 10/18                    |
| Academic memo                   | 10/25                    |
| Statistical problem set #4      | 11/1                     |
| Research methods                | 11/8                     |
| Referee report                  | 11/15                    |
| Final presentation              | 11/26 and 12/3           |
| Research paper                  | 12/12 by 4:59pm          |
| Short response papers (6 times) | 9:59pm before each class |

## Course Policies

**Attendance.** On-time attendance is mandatory for all sessions. The quality of the course and the experience of your colleagues depend critically on your attendance and active participation. I hope you will find attending and participating in the discussions more useful (and more fun) than not attending class. However, things happen. I will accept two unexcused absences per semester. Please [report your anticipated absences](#). Further absences will affect your participation grade. If you anticipate a conflict beyond the two unexcused absences, please let me know in advance.

**Correspondence:** Please include “[Ec970]” in the subject line of all emails. I will try to reply to all emails within 48 hours but may respond more slowly over weekends and holidays or if there is a large influx of emails close to a due date (so reach out early). Please feel free to send a follow-up email if you have not received a response from me after two days.

**Electronic Devices:** No electronic devices are allowed during class (please **bring paper and pen!**). I know this may seem somewhat radical, but in my experience, this allows for the best engagement with everyone fully present and focused during class. However, if you require the use of a laptop or other electronic device as an accommodation, please do let me know.

**Late Assignments:** You are allowed two late days throughout the semester, no questions asked. These late days can be used on the same assignment (i.e. turn in one assignment two days late) or the late days can be split across assignments (i.e. turn in two assignments one day late). Beyond these two late days, assignments will be penalized by 1/3 of a letter grade for each day that the assignment is late (for example: an A- assignment that is turned in one day late would receive a B+). The exception to this late assignments policy is the Wednesday, 12/12 Final Research Paper deadline, for which no late assignments will be accepted (this is a firm, course-wide deadline).

**Regrading:** Requests for re-grading must be received within a week of receiving the graded assignment and must be submitted in writing. Please provide the original graded assignment and an explanation of what you would like re-examined and why. Note that grades could be adjusted downwards upon examination (e.g., original grade was too lenient).

**Writing:** Unless otherwise specified, double-spaced, Times New Roman (or similar) 12-point font with 1" margins.

**Academic Honesty:** I welcome students working together to complete readings and Problem Sets, but all students must submit their own original work (whether written assignments or code). All written assignments must cite other works appropriately.

Discussing ideas and work-in-progress with others is an important part of the research process, but in the end, your assignments must be the product of your own effort, written by you, and ultimately based on your own thinking. All written assignments must use appropriate citation practices. For coding assignments, you must submit your own unique code. For questions about Harvard's stance on academic honesty, consult the Academic Information section in the Harvard College Handbook for Students. If you plagiarize, you will fail the course.

If you are unsure whether a particular practice would constitute academic dishonesty, please ask rather than assume.

**AI Use:** It is unlikely that you can avoid interacting with artificial intelligence in your future endeavors. I hope this course prepares you for this future, and also encourages your independent and critical thinking. Thus, the course does allow the use of AI tools, with the following rules –

In statistical problem sets, the use of AI for problem set completion is strictly prohibited.

In other assignments, if you use AI, please explain how you have used it – i.e., adding an appendix to your submitted work, specify the AI tools you engaged with, the prompts you gave, and the output AI provided.

## Readings

### Week 1. Introduction to Strategy and Entrepreneurship (9/3)

#### Session 1: What is Strategy?

- Porter, M. E. (1996). "What Is Strategy?" *Harvard Business Review*.
- Barnett, William P. and Olav Sorenson (2002). "The Red Queen in organizational creation and development." *Industrial and Corporate Change*.

#### Session 2: What is Entrepreneurship?

- Kerr, W. R., Nanda, R., & Rhodes-Kropf, M. (2014). "Entrepreneurship as experimentation." *Journal of Economic Perspectives*.
- Alvarez, S. A., & Barney, J. B. (2007). "Discovery and creation: Alternative theories of entrepreneurial action." *Strategic Entrepreneurship Journal*.

### \*\*\* Economic Foundations of Entrepreneurship \*\*\*

### Week 2. Opportunity Identification and Evaluation (9/10)

#### Session 1: Sources of Opportunities

- Shah, S. K., & Tripsas, M. (2007). "The accidental entrepreneur: The emergent and collective process of user entrepreneurship." *Strategic Entrepreneurship Journal*.
- Christensen, C. M., & Bower, J. L. (1996). "Customer power, strategic investment, and the failure of leading firms." *Strategic Management Journal*.

#### Session 2: Evaluating Opportunities

- \*Camuffo, A., Cordova, A., Gambardella, A., & Spina, C. (2020). "A scientific approach to entrepreneurial decision making: Evidence from a randomized control trial." *Management Science*.
- \*Koning, R., Hasan, S., & Chatterji, A. (2022). "Experimentation and startup performance: Evidence from A/B testing." *Management Science*.

### Week 3. Exit Strategies and Harvesting Value (9/17)

#### Session 1: IPOs and Acquisitions

- Brau, J. C., & Fawcett, S. E. (2006). "Initial public offerings: An analysis of theory and practice." *Journal of Finance*.
- Graebner, M. E., & Eisenhardt, K. M. (2004). "The seller's side of the story: Acquisition as courtship and governance as syndicate in entrepreneurial firms." *Administrative Science Quarterly*.

## Session 2: Private Equity and Buyouts

- Kaplan, S. N., & Strömberg, P. (2009). "Leveraged buyouts and private equity." *Journal of Economic Perspectives*.
- \*Davis, S. J., Haltiwanger, J., Handley, K., Jarmin, R., Lerner, J., & Miranda, J. (2014). "Private equity, jobs, and productivity." *American Economic Review*.

## **Week 4. Entrepreneurship and Entrepreneurs (9/24)**

### Session 1: Measuring Entrepreneurship

- \*Howell, S. T. (2017). "Financing innovation: Evidence from R&D grants." *American Economic Review*.
- \*Guzman, J., & Stern, S. (2020). "The State of American Entrepreneurship? New Estimates of the Quantity and Quality of Entrepreneurship for 32 US States, 1988-2014." *American Economic Journal: Economic Policy*.

### Session 2: Factors Affecting Entrepreneurs & Entrepreneurial Activities (**Guest: Marc-Andre Simard** – Co-Founder of [tori.gg](https://tori.gg))

- \*Levine, R., & Rubinstein, Y. (2017). "Smart and illicit: who becomes an entrepreneur and do they earn more?" *The Quarterly Journal of Economics*.
- \*Hombert, J., Schoar, A., Sraer, D., & Thesmar, D. (2020). "Can unemployment insurance spur entrepreneurial activity? Evidence from France." *The Journal of Finance*.

## **Week 5. Entrepreneurial Finance – Sources of Funding (10/1)**

### Session 1: Angel Investing and Alternative Financing

- \*Kerr, W. R., Lerner, J., & Schoar, A. (2014). "The consequences of entrepreneurial finance: Evidence from angel financings." *Review of Financial Studies*.
- Hellmann, T., Schure, P., & Vo, D. H. (2021). "Angels and venture capitalists: Substitutes or complements?" *Journal of Financial Economics*.

### Session 2: Venture Capital (Guest: TBC – )

- Lerner, J., & Nanda, R. (2020). "Venture Capital's Role in Financing Innovation: What We Know and How Much We Still Need to Learn." *Journal of Economic Perspectives*.
- Ewens, M., Nanda, R., & Rhodes-Kropf, M. (2018). "Cost of experimentation and the evolution of venture capital." *Journal of Financial Economics*.

## **Week 6. Entrepreneurial Finance – Selection and Deal Structure (10/8)**

### Session 1: Stage Financing

- Cornelli, F., & Yosha, O. (2003). "Stage financing and the role of convertible securities." *Review of Economic Studies*.



- \*Bernstein, S., Korteweg, A., & Laws, K. (2017). "Attracting early stage investors: Evidence from a randomized field experiment." *Journal of Finance*.

## Session 2: Investor Perspectives

- Gompers, P. A., Gornall, W., Kaplan, S. N., & Strebulaev, I. A. (2020). "How do venture capitalists make decisions?" *Journal of Financial Economics*.
- Kaplan, S. N., Sensoy, B. A., & Strömberg, P. (2009). "Should investors bet on the jockey or the horse? Evidence from the evolution of firms from early business plans to public companies." *Journal of Finance*.

## \*\*\* Economic Foundations of Strategy \*\*\*

### Week 7. Industry Structure and Competitive Forces (10/15)

#### Session 1: Industry Analysis

- Porter, M. E. (1979). "How Competitive Forces Shape Strategy." *Harvard Business Review*.
- \*Braguinsky, S., Ohyama, A., Okazaki, T., & Syverson, C. (2015). "Acquisitions, productivity, and profitability: Evidence from the Japanese cotton spinning industry." *American Economic Review*.

#### Session 2: Factors That Account for Performance Differences

- McGahan, A. M., & Porter, M. E. (1997). "How Much Does Industry Matter, Really?" *Strategic Management Journal*.
- Vanneste, B. S. (2017). "How Much Do Industry, Corporation, and Business Matter, Really? A Meta-Analysis." *Strategy Science*.

### Week 8. Resource-Based View, Dynamic Capabilities, and Governance (10/22)

#### Session 1: Resource-Based View & Dynamic Capabilities

- Barney, J. (1991). "Firm resources and sustained competitive advantage." *Journal of Management*.
- Eisenhardt, K.M. & Martin, J. (2000). "Dynamic capabilities: What are they?" *Strategic Management Journal*.

#### Session 2: Corporate Governance

- \*Bloom, N., & Van Reenen, J. (2007). "Measuring and explaining management practices across firms and countries." *The Quarterly Journal of Economics*.
- \*Giroud, X., & Mueller, H. M. (2010). "Does corporate governance matter in competitive industries?" *Journal of Financial Economics*.

## **Week 9. Location Strategies and Agglomeration Economies (10/29)**

### Session 1: Knowledge Spillovers and Firm Performance

- \*Alcacer, J., & Chung, W. (2007). "Location strategies and knowledge spillovers." *Management Science*.
- \*Kalnins, A., & Lafontaine, F. (2013). "Too far away? The effect of distance to headquarters on business establishment performance." *American Economic Journal: Microeconomics*.

### Session 2: Agglomeration Economies and Location Choices

- \*Shaver, J. M., & Flyer, F. (2000). "Agglomeration economies, firm heterogeneity, and foreign direct investment in the United States." *Strategic Management Journal*.
- \*Greenstone, M., Hornbeck, R., & Moretti, E. (2010). "Identifying agglomeration spillovers: Evidence from winners and losers of large plant openings." *Journal of Political Economy*.

## **Week 10. Competitive Strategy and Pricing (11/5)**

### Session 1: Algorithmic Pricing and Competition

- \*Brown, Z. Y., & MacKay, A. (2023). "Competition in pricing algorithms." *American Economic Journal: Microeconomics*.
- \*Calvano, E., Calzolari, G., Denicolo, V., & Pastorello, S. (2020). "Artificial intelligence, algorithmic pricing, and collusion." *American Economic Review*.

### Session 2: Incumbent Responses to Competitive Threats

- \*Goolsbee, A., & Syverson, C. (2008). "How do incumbents respond to the threat of entry? Evidence from the major airlines." *Quarterly Journal of Economics*.
- \*Cunningham, C., Ederer, F., & Ma, S. (2021). "Killer acquisitions." *Journal of Political Economy*.

## **Week 11. Innovation and Technology Strategy (11/12)**

### Session 1: Disruptive Innovation

- Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). "What is disruptive innovation?" *Harvard Business Review*.
- Henderson, R., & Clark, K. B. (1990). "Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms." *Administrative Science Quarterly*.

## Session 2: Technology Adoption and Diffusion

- \*Bloom, N., Schankerman, M., & Van Reenen, J. (2013). "Identifying technology spillovers and product market rivalry." *Econometrica*.
- Adner, R., & Kapoor, R. (2016). "Innovation ecosystems and the pace of substitution: Re-examining technology S-curves." *Strategic Management Journal*.

## \*\*\* Contemporary and Special Topics on Entrepreneurship and Strategy \*\*\*

### Week 12. Nonmarket Strategy (11/19)

#### Session 1: Corporate Activism

- McDonnell, M.H., 2016. "Radical repertoires: The incidence and impact of corporate-sponsored social activism." *Organization Science*.
- Hambrick, D.C. and Wowak, A.J., 2021. "CEO sociopolitical activism: A stakeholder alignment model." *Academy of Management Review*.

#### Session 2: Lobbying and Firm Strategy

- Ansolabehere, S., de Figueiredo, J. M., & Snyder Jr., J. M. 2003. "Why is there so little money in U.S. politics?" *Journal of Economic Perspectives*.
- \*Barber, B., & Diestre, L. 2019. "Pushing for speed or scope? Pharmaceutical lobbying and Food and Drug Administration drug review." *Strategic Management Journal*.

### Week 13. Student Final Presentations (11/26)

### Week 14. Student Final Presentations (12/3)