

**Department of Finance**  
**Olin Business School**  
**Washington University in St. Louis**  
Professor David Rapach  
Fall 2019  
**FIN 470A/560A**  
**Research Methods in Finance**  
[This Version: 09-15-2019]

## General Information

Professor: David E. Rapach  
Class time/place: Monday, 6:15p–9:15p, Bauer Hall 230  
Office location: Simon Hall 210  
Office hours: By appointment  
Telephone: 314-935-3318  
E-mail: david.rapach@wustl.edu

## Olin's Pillars of Excellence

Olin students will:

1. **Embody a values-based and data-driven ethos in their approach to all business situations**
2. Understand the global opportunities and challenges facing businesses
3. Engage with business issues through the application of experiential knowledge, in addition to the rigorous technical skills acquired in the classroom
4. Pursue world-changing initiatives with an entrepreneurial and innovative mindset and skillset

## Honor Code and Code of Conduct

This course will follow the standards specified in the Code of Conduct and Code of Academic Integrity, which were presented to faculty and students of the Olin Business School. Students are expected to be familiar with the codes. (Some relevant parts of the code are included at the end of the syllabus.)

## Course Description and Objectives

The course covers core empirical methods used in finance research and how to implement them. The course objectives are:

1. Learn basic empirical methods in corporate finance and asset pricing
2. Learn basic forecasting methods
3. Obtain basic knowledge of and familiarity with popular databases used in finance research, such as Compustat, CRSP, IBES, FACTIVE, and Execucomp
4. Get exposure to recent research in finance which applies the methods covered
5. Learn how to implement the methods covered using the powerful R software environment and RStudio interface

## Textbook

The following textbook is required:

Stock, J.H. and M.W. Watson (2019), *Introduction to Econometrics*, Fourth Edition, New York: Pearson

## Course Design, Requirements, and Grading

You are expected to attend each class, be well prepared, and actively participate in the lectures. Your grade for the course will be determined by two exams, weekly assignments, one class presentation of a paper, and individual class participation. For group activities, you are expected to organize yourselves into groups of up to six students. The composition of the final grade is as follows:

- Class participation (individual): 5%
- Weekly R assignments (group): 15%
- Weekly textbook assignment (individual—completion only): 10%
- Class presentation of a paper (group): 10%
- Midterm exam (individual): 25%
- Final exam (individual): 35%

## TA Office Hours

The TAs will hold office hours to help you with the problem sets and answer question. The times of the TA office hours will be given in class and posted on my webpage.

# Course Outline

The following outline is subject to change during the semester.

**Monday, August 26** Class 1: *Review of Probability*

- Stock and Watson (2019), Chapter 2

**Monday, September 2** No class—Labor Day

**Thursday, September 12 (Bauer Hall 130)** Class 2: *Review of Statistics*

- Stock and Watson (2019), Chapter 3

**Monday, September 16** Class 3: *Linear Regression with a Single Regressor*

- Stock and Watson (2019), Chapters 4–5

**Monday, September 23** Class 4: *Linear Regression with Multiple Regressors*

- Stock and Watson (2019), Chapters 6–7

**Monday, September 30** Class 5: *Nonlinear Regression Functions*

- Stock and Watson (2019), Chapter 8

**Monday October 7** Class 6: *Midterm exam*

**Monday, October 14** No class—Fall Break

**Monday, October 21** Class 7: *Regression with Panel Data*

- Stock and Watson (2019), Chapter 10

**Monday, October 28** Class 8: *Panel Data Methods in Asset Pricing*

- Fama, E.F. and K.R. French (1992), “The Cross-Section of Expected Stock Returns,” *Journal of Finance* 47:2, 427–465

**Monday, November 4** Class 9: *Regression with a Binary Dependent Variable*

- Stock and Watson (2019), Chapter 11

**Monday, November 11** Class 10: *Instrument Variable Regression*

- Stock and Watson (2019), Chapter 12

**Monday, November 18** Class 11: *Introduction to Time-Series Regression and Forecasting*

– Stock and Watson (2019), Chapters 15

**Monday, December 2** Class 12: *Additional Topics in Time-Series Regression*

– Stock and Watson (2019), Chapters 17

**Monday, December 16** *Final exam*

## Papers for Presentations

- Berger, A.N. and C.H.S. Bouwman (2012), “How Does Capital Affect Bank Performance During Financial Crises?” *Journal of Financial Economics* 109:1, 146–176
- Berger P.G. and E. Ofek (1995), “Diversification’s Effect on Firm Value,” *Journal of Financial Economics* 37:1, 39–65
- Bertrand, M. and S. Mullainathan (2001), “Are CEOs Rewarded for Luck? The Ones without Principals Are,” *Quarterly Journal of Economics* 116:3, 901–932
- Fama E.F. and K.R. French (1998), “Value versus Growth: The International Evidence,” *Journal of Finance* 53:6, 1975–1999
- Hong, H. and M. Kacperczyk (2010), “Competition and Bias,” *Quarterly Journal of Economics*, 125:4, 1683–1725
- Odean, T. (1998), “Are Investors Reluctant to Realize their Losses?” *Journal of Finance* 53:5, 1775–1798
- Rajan R. and L. Zingales (1998), “Financial Dependence and Growth,” *American Economic Review*, 88:3, 559–586
- Rapach, D.E., J.K. Strauss, and G. Zhou, “Out-of-Sample Equity Premium Prediction: Combination Forecasts and Links to the Real Economy,” *Review of Financial Studies* 23:2, 821–862
- Yermack, D. (1996), “Higher Market Valuation of Companies with a Small Board of Directors,” *Journal of Financial Economics* 40:2, 185–211

## Code of Conduct

The purpose of Olin’s Code of Conduct is to clarify expectations about academic and professional behavior. The Code is meant to encourage and clarify appropriate academic, classroom, interpersonal, and extra-curricular etiquette that is expected of each individual by their peers, the faculty, and the institution. It is also intended to help describe the overall

environment of excellence and professionalism that members of the Olin community seek to establish and to continually enhance. It is the responsibility of each member of the Olin community to uphold the spirit, as well as the principles, of the Code.

Please refer to the publication *Integrity Matters: Olin Business School Code of Conduct* for specific responsibilities, guidelines and procedures regarding academic integrity.

## Olin's Code of Conduct as it relates to Academic Matters

The following is a summary of the Code as it applies to Academic matters:

**Student Academic Violations.** It is dishonest and a violation of student academic integrity if you:

1. **Plagiarize**—You commit plagiarism by taking someone else's ideas, words or other types of product and presenting them as your own. You can avoid plagiarism by using proper methods of documentation and acknowledgement.
2. **Cheat on an examination**—You must not receive or provide any unauthorized assistance on an examination. During an examination you may use only material authorized by the faculty.
3. **Copy or collaborate on assignments without permission**—It is dishonest to collaborate with others when completing graded assignments or tests, performing laboratory experiments, writing and/or documenting computer programs, writing papers or reports, and completing problem sets (unless expressly discussed in class).
4. **Fabricate or falsify data or records**—It is dishonest to fabricate or falsify data in laboratory experiments, research papers, reports, or other circumstances; fabricate source material in a bibliography or "works cited" list; or provide false information on a resume or other document in connection with academic efforts. It is also dishonest to take data developed by someone else and present them as your own.
5. **Engage in other forms of deceit or dishonesty that violate the spirit of the Code.**

If you have any questions regarding the definition of allowable behavior, it is your responsibility to ask for clarification prior to engaging in the collaboration.

## Olin's Code of Conduct as it relates to Professional Behavior

Expectations—Professional Standards of Conduct Olin students are expected to conduct themselves at all times in a professional manner. Professional behavior includes, but is not limited to, the following:

*In the classroom:*

- **Attendance:** Students are expected to attend each class session. Students who must miss a session for any reason should make every effort to notify the instructor prior to the class meeting. Students should never register for courses scheduled in conflict with one another.
- **Punctuality:** Students are expected to arrive and be seated prior to the start of each class session. They should display their name cards in all classes at all times.
- **Behavior:** Classroom interaction will be conducted in a spirited manner but always while displaying professional courtesy and personal respect.
- **Preparation:** Students are expected to complete the readings, case preparations and other assignments prior to each class session and be prepared to actively participate in class discussion.
- **Distractions:**
  - *Exiting and Entering:* Students are expected to remain in the classroom for the duration of the class session unless an urgent need arises or prior arrangements have been made with the professor.
  - *Laptop, PDA, and Other Electronic Device Usage:* Students are expected to not use laptops, PDAs, and other electronic devices in classrooms unless with the instructor’s consent and for activities directly related to the class session. Accessing email or the Internet during class is not permitted as they can be distracting for peers and faculty.
  - *Cellular Phone and Pager Usage:* Students are expected to keep their mobile phones and pagers turned off or have them set on silent/vibrate during class. Answering phones or pagers while class is in session is not permitted.
  - *Other distractions:* Those identified by individual instructors, such as eating in the classroom.