

Quantitative Equity Analysis (MBA 524)

Prof: Srinivasan Krishnamurthy (Srin)
Class timings: W 6:00-8:45 pm, 1120 Nelson Hall

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Course Overview

This is an advanced, research based, finance course and is designed to introduce you to cutting edge, state of the art in finance. It is intended for those students who have a strong interest in understanding and applying the concepts underlying stock valuation. These skills are applicable in jobs in consulting, corporate finance/valuation, mutual funds/hedge funds/pension funds, investment banking, forensic accounting, securities litigation consulting, etc. The course will build upon finance concepts covered in the introductory class.

- *If it cannot be applied, why should I care?*
- *Don't sweat the small stuff, but make sure you know the 'big picture'!*

Course Format

Module 0: We will spend some time (the first 2-3 weeks) going over the basics of the course, and learning the basics of finance/accounting as it relates to capital markets. We will cover these topics quickly; you should have a good understanding from your prior coursework. If not, you should set aside time during these weeks and familiarize yourselves with these topics. We will also go over (a) the quantitative stock selection methods used in industry, based on mutual fund prospectuses, (b) the trading mechanism in US equity markets, so we can understand how to create value (or 'alpha'), and (c) the basics of creating a diversified portfolio for a mutual fund (because the valuation done in class will be used to select stocks where we will invest the money in the Suntrust MBA fund).

Module 1: We will go over the basics of equity valuation and valuation exercises, and three papers, so you know how to read the academic papers. We will set up valuation worksheets, and will use the knowledge from these papers to select target firms that we will invest in. We will be using actual financial data to make this selection.

Module 2: We will use the rest of the course (about 8 weeks) to go over several alternative valuation methods, portfolio performance evaluation, and develop our spreadsheet valuation models for the selected stocks. We will also read and discuss state of the art research papers in accounting and finance. The objective is to understand some of the issues involved in how portfolio managers (mutual/hedge/pension funds), auditors, consultants, & others can use this knowledge. We will have a presentation at the end of the semester to the entire class and will make the final investment decisions as a group (majority "YES" vote, based on secret ballot).

Is this course right for you?

Are you inquisitive and intrigued about capital markets? Are you excited by the possibility of learning the state of the art in accounting and finance? Do you like challenges? If so, I would strongly urge you to consider taking this class. Feel free to stop by my office, if you need any more information.

Reading material

Textbook: Equity Asset Valuation, by Stowe, Robinson, Pinto, & McLeavey, 2010, John Wiley
Highly recommended that you get the workbook that accompanies the book.
I will post pdfs of the research papers on moodle.

Additional details:

Prerequisites: Must have taken intro. to financial accounting, and intro. to finance. Must be familiar with PV/FV calculations and financial statements. *If you have not taken the intro to accounting and intro to finance courses **PRIOR** to taking this class, you should drop the class.*

Computer: We will use Excel spreadsheets to develop the valuation models.

Module 0 – The basics (Jan 11, 18, 25, Feb 1)

1. Mutual fund prospectuses, hedge funds, regulatory framework
2. Valuation mechanics - examples of DDM and DCF valuation, cost of capital (Chapter 2)
3. Details of DDM and DCF valuation (Chapters 3,4)
4. JC Penney valuation exercise
5. Using financial statements, proformas, concept of earnings quality and accruals
6. Valuation using multiples (Chapter 6)

Project deliverables: Select your industry sector (Date TBA)

Project deliverables: Valuation for firms in your industry sector that are already in the SunTrust Fund portfolio (Date TBA)

Module 1 – Patterns in stock returns (Feb 8, 15, 22, 29)

1. Stock markets
Concept of expected and 'abnormal return'. Example to get stock/market return data, calculate compounded returns. Market structure and market efficiency. Link to expected and abnormal return, event studies, trade execution-related issues.
2. Using financial data from Compustat via WRDS
3. Performance of value strategies. Lakonishok, Shleifer, Vishny (JF 1994)
4. Information in financial statements, cash vs. accrual accounting. Sloan (TAR 1996)
5. Using momentum to predict returns. Jegadeesh and Titman (JF 2001)

Project deliverables: Identify the choice set of "new firms" for adding to portfolio (Date TBA)

Module 2 - Advanced valuation and research papers (March 14, 21, 28, Apr 4, 11, 18, 25)

1. Residual income valuation (Chapter 5), other issues to be considered in valuation
2. Portfolio performance evaluation techniques, estimating 'alpha' (Carhart, JF 1997)
3. Are short sellers smart? Dechow et al. (JFE 2001)
4. Using financial data to separate winners and losers. Piotroski (JAR 2000)
5. Pairs trading. Gatev and et al. (RFS 2006)
6. Can short sellers predict restatements? Desai et al. (RAST 2005)

Project deliverables: Create the valuation worksheet for "new firms"(Date TBA)

Project deliverables: Submit the final report, present findings to the class, and vote on investment decisions (Date TBA)

Journal names:

JAR - Journal of Accounting Research

JF – Journal of Finance

JFE – Journal of Financial Economics

RAST – Review of Accounting Studies

RFS – Review of Financial Studies

TAR – The Accounting Review

I will post all class notes on moodle, so you should ensure that you are up to date with it. I will also send course related emails via moodle, so you should ensure that your contact information on moodle is the most recent one and is up to date.

Grading. In class exercises and tests will be closed book/closed notes. You will get a formula sheet for the tests.

1. Valuation project – 24% (group work, 3 students per group).

You will have to value the stocks from your industry sector that are already in the SunTrust Fund. Then, based on the fundamental analysis topics covered in class (or that you have knowledge of from elsewhere), you will be required to select 5-10 firms as possible candidates that the Suntrust Fund will invest in. The first stage will require you to submit a report detailing how and why you selected these candidate stocks and your valuation worksheet. The second stage report will include the final written report and will accompany your presentation.

Valuation of stocks already in the SunTrust Fund - 6%

Select initial set of candidate stocks and valuation worksheet – 6%

Final project report - 7%

Presentation and Q&A - 5%

2. In class exercises and HW – 21%

I will assign HW for you to work as a group (2 or 3 students per group). We will also have individual in-class exercises (one after each HW, plus a few more that are based on the readings), to ensure that everyone keeps up with the class and readings. Each HW and in class exercise will have the same weight. I will drop the worst exercise for every student. So, if I assign 3 home works and we have 5 in class exercises, each of the 7 exercises (3+5-1) will have 3% of the weight.

3. 2 Exams – 15% + 30% = 45%.

There will be an in-class mid-term test during Module 2, and a **final exam during finals week**. The tests will be similar to the material covered in class and the HW, and questions from the research papers. **You will need a calculator for the tests, you are not allowed to use anything that has a communication device or an imaging device during the test, such as laptops, iphone, ipad, cell phone, etc. Exam dates are set in advance, so make your travel/interview plans accordingly. Makeup exams will be allowed only for COM/NCSU allowed reasons.**

4. Attendance and class participation - 10%

Because the class meets once a week, regular attendance is highly recommended. Missing one class means you have missed about 7% of the course, a fairly substantial proportion. **No exceptions for missing class, except for COM/NCSU allowed reasons.**

Other class details:

I have zero tolerance for academic dishonesty. If I find any evidence of cheating (or attempts at cheating) I will award a grade of zero for that component or a course grade of F to the person and pursue other more severe penalties. You should ensure that you are familiar with the CODE OF STUDENT CONDUCT. This is available online at: http://www.ncsu.edu/student_affairs/osc/

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on NC State's policy on working with students with disabilities, please see the [Academic Accommodations for Students with Disabilities Regulation \(REG02.20.1\)](#)

We will follow a "laptop down" policy in class, unless I ask you to use your laptops. You should be prepared to participate in the class discussions. You should ensure that you keep up with the class. In case you are not following something we are doing in class, you should ask me either in class, or after class, or during office hours.

About the instructor

Srinivasan Krishnamurthy received his Ph.D in Finance from Tulane University. He also has an MBA from the Indian Institute of Management, Ahmedabad and a Chemical Engineering degree from the Indian Institute of Technology, Kanpur. He worked in the Investment Banking divisions of Deutsche Bank AG and ANZ Grindlays Bank plc., and was involved in forex trading, corporate advisory services and bond trading. His research interests are primarily related to capital markets (audit and earnings quality, analysts, mutual funds, short sellers etc.), investment banking, IPOs and equity issues, capital structure, and mergers.

Work schedule (Exam dates are fixed, all other dates are tentative)

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| 1. | Jan 18 | Form your groups. Select your industry sector. |
| 2. | Jan 25 | HW 1, JC Penney valuation, In class exercise (ICE) for HW1 |
| 3. | Feb 8 | Valuation for stocks in your industry that are already in the portfolio. Use DDM and DCF, based on your forecasts and/or analyst forecasts (e.g., Value Line) |
| 4. | Feb 15 | HW 2, ICE for HW2 |
| 4. | Feb 22 | Test 1 , Identify screening variables. Identify choice set of new firms to be considered (from WRDS) |
| 5. | Feb 29 | ICE for papers covered in class, |
| 6. | March 21 | HW 3, ICE for HW3 |
| 7. | March 28 | Initial valuation worksheet due |
| 8. | Apr 11 | ICE for papers covered in class |
| 9. | Apr 18 | Preliminary report due |
| 10. | Apr 25 | Final report due, presentation in class |
| 11. | | Final exam during finals week |