Economics 581
Investment Strategies
Duke University Spring 2020
Instructor: Prof. Ed Tower

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Course meets Tuesday and Thursday 10:05am-11:20am in room:Sociology Psychology 129.
Final Exam: Wednesday April 29, 2pm-5pm
No class March 5. Class resumes March 15. Takehome midterm due March 6. Undergrad classes end Tues April 21 April. I expect we will have student presentations through April 21.

Course Description:

Much of this course focuses on mutual fund investing. In this course we will examine issues in personal investment strategies. Emphasis is on portfolio selection. We will read and discuss a number of books and articles. Topics include behavioral finance, closed-end mutual funds, open-end mutual funds,data-mining, diversification, dollar cost averaging, efficient market hypothesis, equity premium, exchange-traded funds, Expenses and transaction costs, islamic funds, junk bonds, inflation indexed bonds, life cycle investing, market timing, passive versus active investing, predicting performance, pumping performance, rebalancing, sector funds, stock market anomalies, survivorship bias, tax managed investing, time zone arbitrage, Tobin's Q, Robert Shiller's cyclically adjusted price earnings ratio. We will also explore how macroeconomic issues affect financial markets.

You can see the issues that interest me and the tools I use from looking the articles I have written on Mutual Fund Investing on my Vita (which needs updating).
https://fds.duke.edu/db/aas/Economics/faculty/edward.tower/files/CV.pdf

Students will write a paper on a topic or related topics of their choice, extending and revising it as the semester progresses. My hope is that undergraduates will do work which can serve as the basis of an honors thesis. Master's students may write a master's thesis in this course. Some students may wish to work with a partner on their project. I find that

a good way to write a paper about an issue is to write short commentaries on articles on the issue. Treat these commentaries as individual appendixes. They may explain the articles better than the original author did. Then the best ideas from the appendices can be gathered together into a paper. Some students may wish to work with data and econometrics. Some may wish to draw conclusions from a survey of their particular issue. **Students are free to work with a partner on the project.**

Prerequisites: Ideally, intermediate micro and macro economics, but introductory economics is the only formal prerequisite.

There will be only a limited amount of lecturing in the course. The books do a better job of presenting the material than I could do. Reading and class discussion is the bulk of how learning occurs. Students will be expected to write short reports on parts of the reading, which will serve as the basis for our class discussion.

GRADING

10% Class presentations (spread out throughout the semester)

10% Midterm exam

10% paper due Tuesday February 5. The paper should consist of commentary on 5 articles and a proposal for a second paper to address an issue in the papers you have surveyed or some other issue that fascinates you. A good commentary could suggest ways to improve the paper. A good research project could be to update an older paper or apply a new methodology to an old problem, or asking a new question.

10% Article Commentary Due Thursday March 17. This should be a referees report telling an author how he could improve or extend his article. Working papers are good things to comment on, because the author is more likely to be interested in suggestions on how to improve his as yet unpublished work.

30% Paper number 2: the research project, is due Thursday April 14. We will have student presentations of their papers after that.

30% Final Exam

The one text you should buy:

Jeremy Siegel, “Stocks for the Long Run,” 2014 edition, used $12.13 plus $3.99 shipping.If you know anyone with a prime membership with Amazon you can buy a new book for $24.12 with no shipping charge

Some books that we will use in the course:

Arnott, RD, Hsu, JC, West, JM (2008) The fundamental index: a better way to invest Wiley, Hoboken.

Berkin, Andrew L. and Larry E. Swedroe. Your Complete Guide to Factor-Based Investing. 2016.

Bernstein, William. *Skating Where the Puck Was*

Bernstein, William. *The Investors Manifesto*

Bernstein, William. *The Intelligent Asset Allocation*

Bogle, John, *John Bogle on Mutual Funds.*

Chancellor, Edward, *Devil Take The Hindmost: A History of Financial Speculation*, 373 pp., Penguin, paperback, 2000. $3.11 secondhand from Amazon.

Dimson, Marsh and Staunton, 2002, *Triumph of the Optimists (too expensive to buy. On reserve at the library.*

Hebner, MT (2007) *Index funds: the 12-step program for active investors.* IFA publishing, Irvine.

Kritzman, Mark, *Puzzles of Finance: Six Practical Problems and Three Remarkable Solutions*, 184pp., Wiley, paperback, 2002. $3.99 secondhand from Amazon.

Malkiel, Burton, *A Random Walk Down Wall Street*, 350 pp., Norton, paperback, 2015 edition. $13.56 new from Amazon

Shiller, Robert *Irrational Exuberance*, 310pp., Currency, paperback, 2006. $6.29 second hand from Amazon.

Chancellor, Devil Take the Hindmost: A History of Financial Speculation, $3.11 used plus shipping.

Smithers, Andrew and Stephen Wright, *Valuing Wall Street: Protecting Wealth in Turbulent Markets*, 346pp., McGraw-Hill, paperback, 2002. $1.90 secondhand from Amazon.

Swedroe, Larry E. and RC Balaban, *Investment MIstakes Even Smart Investors Make and How to Avoid Them*.

Malkiel is a fun read. He is a great guy. I am delighted to have money going his way. He gave a great talk, when he visited here. You can give it away as a present to one of your best friends

after you finish with it. Devil Take the Hindmost is lots of fun. There are good stories here, which are worth reading. I have a set of lectures that accompanies the Siegel book. We will have class presentations around the other two books. The Duke Bookstore has stocked these books.

Jeremy J. Siegel, Stocks for the Long Run, 5th edition. 2014. ISBN 978-0-07-180051-8. Used from Amazon $9.80+$3.99 shipping. New: $22.26+$3.99 shipping. The newest edition is lots better than the old editions, so don't save money on an old edition. McGraw Hill

Edward Chancellor, Devil Take the Hindmost, McGraw Hill, $15.07+$3.99 shipping. Penguin, 2000, ISBN 0-452-28180-6. This is a history of financial markets. Very readable. Fun. Worth knowing. We will have class presentations based on this book.

Burton G. Malkiel, A Random Walk Down Wall Street: The Time Tested Strategy for Successful Investing, WW Norton and Co, ISBN 978-0-3939-24611-7. $17.22+$3.99 shipping.

Here is the set of review questions for the final exam I gave to my students at Chulalongkorn University in Thailand last summer. The course I taught there is similar to the one I will teach you here, but there was only a limited research component in the Thai course.

Review questions for final exam in Topics in Finance from previous years. The questions will be similar this year.

Some questions mostly from Siegel

1. From 1802 the real return on stocks has exceeded the real return on bonds, which has exceeded the real return on bills, which has exceeded the real return on gold, and the real return on the dollar has been negative. Explain why. (Siegel, page 6 and chapter 5),
2. What are the lessons for policy makers and investors of the great financial crisis of 2008? (Siegel ch 2)
3. Will the age wave drown the stock market? (Siegel Chapter 4).
4. Stocks are riskier than bonds no matter what the holding period. True, false,or uncertain and explain why. Siegel page 95)
5. It never makes sense to hold both stocks and bonds. True, false or uncertain and explain. (Siegel chapter 6)
6. An unanticipated jump in the price level will hurt stock holders more than bond holders. True, false, or uncertain and explain. (Siegel Chapter 9)
7. High inflation causes real earnings of companies to be taxed more heavily. True, false, or uncertain, and explain. (Siegel chapter 9). Depreciation allowances, confusion of real and nomial returns when intermediate inputs are purchased in an earlier period, inflation means real value of debt is shrinking and that doesn't count as taxable earnings.
8. What is the Gordon formula? (Siegel, p. 147 and Croatia paper)

9. Derive the Gordon formula, mathematically.(Siegel, p. 147 and Croatia paper)
10. Derive the Gordon formula, intuitively. Siegel, p. 147 and Croatia paper).
11. The value of a stock is given by the present discounted value of expected earnings. True, false or uncertain and explain. (Siegel chapter 10).
12. Compare the following measures of whether the stock market is overvalued: the price earnings ratio, the CAPE, the CAPER, and Tobin's Q.
13. Would you bet on small stocks doing better in the future than large stocks will do? Why? (Siegel p.178)
14. Would you bet on stocks with high dividend yield doing better in the future than stocks with low dividend yield? (Siegel, p. 180).
15. How would you decide how much of your portfolio to invest abroad? (Siegel chapter 13).
16. Do you think it would be wise for the world to return to the gold standard? (Siegel Chapter 14 and my son's article on gold in Alaska)
17. What are exchange traded funds?
18. What are open end mutual funds?
19. What are closed end mutual funds?
20. Which is better, open end or closed end mutual funds? Why?
21. Which is better , exchange traded funds or open end mutual funds? Why?
22. Buying stocks on margin is a good idea. True, false, or uncertain, and explain.
23. How would an investor use stock options who is afraid that the stocks he owns may fall? (Siegel chapter 18). Buy a put. That is the right to sell.
24. What is a put option? Why might I want to buy a put option?
25. What is a call option? Why might I want to buy a call option? Leverage. Expect high volatility.
26. Once folks find a strategy to make money in the stock market and lots of folks take advantage of it, the opportunity will disappear. True , false , or uncertain and explain why. (Siegel ch 20 and 21)
27. Is it a good policy to hold on to you winning stocks and sell your losing stocks? Explain. Siegel Ch 22)
28. What is fundamental indexation? (Siegel, ch 23)
29. Fundamental indexation is a good strategy. True, false or uncertain and explain why.
30. Index mutual funds are a better deal than actively managed mutual funds. True, False, or uncertain and explain why. (Siegel chapter 23 & 24).

Some questions from E. Tower's lectures

31. What is time zone arbitrage? Can you still make money from it?
32. Should we return to the gold standard? Why or Why not?
33. The real rate of return is equal to the nominal rate of return minus the inflation rate. True, false, or uncertain?

34. Define the following: the continuously compounded geometric average rate of return over a 5 year period, say over 2000, 2001, 2002, 2003, and 2004, the annualized geometric average rate of return, and the arithmetic average annual rate of return.
35. The arithmetic average rate of return is always higher than the geometric average rate of return. Give a numerical example of this. For extra credit prove it.
36. The corporation income tax is a good tax. True, false, or uncertain and explain.
37. Tax sheltered retirement accounts are a good thing even for the worker who does no saving. True, false, uncertain and explain.
38. What is the life cycle hypothesis of saving?
39. When the interest rate rises folks will save more. True, false, or uncertain and explain why.
40. What is survivorship bias, and how can it mislead investors?
41. It is really smart to invest in the stock of the company you work with, because you are so familiar with that company. True, false, or uncertain, and explain why.
42. Flexible exchange rates are great. True, false, or uncertain and explain why.
43. The risk minimizing mix of stocks and bonds depends on the holding period, and the longer the holding period the more bonds you should hold. True, false, uncertain, and explain why.
44. Can inflation cause depression? What policies do you need in order to be sure that inflation does not cause depression?
45. Is a capital gains tax a good thing?
46. Does it make sense to have a lower tax on capital's return than on labor's earnings?
47. If you have wealth in your tax deferred account and in your regular account, you should put stocks into the tax deferred account and bonds into your taxable account. True, false, or uncertain and explain.
48. Why has the ratio of dividends to earnings shrunk in recent years?
49. Distinguish between diversifiable risk and undiversifiable risk. Why is the distinction important?

Some calculation questions with continuous compounding. In these questions assume the interest rate is continuously compounded and the dividend flows are continuous throughout the year—not a lump sum at the end of the year.

50. What is the present value of $500 ten years from now if the interest rate is 10%/year?
51. What is the present value of a flow of dividends of $500/year forever if the interest rate is 10%/year?
52. What is the present value of a flow of dividends of $500/year, starting now and growing at 5% per year forever if the interest rate is 10%/year?
53. What is the present value of a flow of dividends of $500/year starting now and stopping after ten years?
54. What is the present value of a flow of dividends of $500/year starting after 10 years and going on forever, if the interest rate is 10%/year.
55. What is the relationship between your answers to 51, 53, and 54?

Some calculation questions with annualized interest rates.

56. What is the present value of $500 ten years from now if the annualized interest rate is 10%/year?
57. What is the present value of a flow of dividends of $500 each year, starting one year from today and continuing forever if the annualized interest rate is 10%/year?
    Some additional points:

58. According to S&P Dow Jones Indices, the S&P 500 had a 4.75% yield for the 12 months ending September 30, 2018. That yield came from a 1.81% dividend yield and 2.93% stock buyback yield[1]. You or your clients may say you can't spend the buyback yield. I beg to differ.
59. The Vanguard ETFs now have lower expense ratios than the corresponding Vanguard Admiral funds.

    I quickly saw that my favorite Total International Stock Index Mutual Fund (VTIAX) was left with a 0.11% annual expense ratio, 0.02 percentage points higher than its ETF share class (VXUS). This translates to an extra $2 a year per $10,000 invested. Though not huge, it can add up over time.

    "What's largely driving these changes is the increasing adoption of ETFs by Vanguard investors as their index vehicle of choice, which has enabled us to pass along the cost savings of scale," Woerth said. "To put some numbers around it, even though ETFs make up only about 20% of our assets, they've garnered more than 35% of Vanguard's net cash flow over the past three years."

    Elisabeth Kashner, head of ETF research at FactSet, confirmed that ETFs are less expensive for Vanguard because it saves the administrative costs around record-keeping, which gets transferred from the asset manager to the brokerage firm.

    In addition, Vanguard saves money on not taking client calls on Vanguard ETFs held at non-Vanguard brokerage firms, according to John Rekenthaler, vice president of research at Morningstar.

60. Distinguish between anticipated and unanticipated inflation.
61. Explain how FDR caused the Chinese to become communist.
62. Explain how the French caused the great depression.
63. What is your favorite take away from Swedroe & Balaban: "Investment Mistakes Even Smart People make."
64. What is your favorite take away from Swedroe & Grogan: "Your Complete Guide to a Successful and Secure Retirement"

Here is the final exam I gave two summers ago to my students in Thailand.

Final Exam. Topics in Finance. Aj. Ed Tower

1. An unanticipated jump in the price level will hurt stock holders more than bond holders. True, false, or uncertain and explain. (Siegel Chapter 9)
2. High inflation causes real earnings of companies to be taxed more heavily. True, false, or uncertain, and explain. (Siegel chapter 9).
3. Derive the Gordon formula, mathematically.(Siegel, p. 147 and Croatia paper)
4. Derive the Gordon formula, intuitively. Siegel, p. 147 and Croatia paper).
5. The value of a stock is given by the present discounted value of expected earnings. True, false or uncertain and explain. (Siegel chapter 10).
6. Compare the following measures of whether the stock market is overvalued: the price earnings ratio, the CAPE, the CAPER, and Tobin's Q.
7. Buying stocks on margin is a good idea. True, false, or uncertain, and explain.
8. Should we return to the gold standard? Why or Why not?
9. The real rate of return is equal to the nominal rate of return minus the inflation rate. True, false, or uncertain?
10. Define the following: the continuously compounded geometric average rate of return over a 5 year period, say over 2000, 2001, 2002, 2003, and 2004, the annualized geometric average rate of return, and the arithmetic average annual rate of return.
11. The arithmetic average rate of return is always higher than the geometric average rate of return. Give a numerical example of this. For extra credit prove it.