![Michigan Ross School of Business logo]

FIN 334   **Winter 2011**
Applied Quant/Value Portfolio Management

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INTRODUCTION

This course provides a quant and action-based learning approach to quant/value active portfolio management, using a practical teaching approach with the resources located in the trading floor at the John R. and Georgene M. Tozzi Electronic Business and Finance Center. The first part of the course will focus on developing a systematic approach to choosing/analyzing stocks from a quant/value perspective. The second half of the course will focus on 'leading in thought and action', as participants will critique and analyze stocks, risk, and holdings in existing mutual funds. The final project will combine the lessons learned throughout the course. Students will critique 4 real portfolios from the "lens" of a fund of funds, a senior quant analyst and a portfolio manager.

The focus of the course is on the active management of equity portfolios. Principles can be applied to a wide variety of equity management firms and portfolios. The course synthesizes three key elements:

(i)   The application of the theory and technical skills taught in RSB accounting and finance courses to active investment management;

(ii)   Mastery of the leading professional investment tools; and

(iii)   The application of the first two elements above to the management of equity portfolios.

Prerequisite / Co-Requisite: FIN 300 or permission of instructor.

COURSE MATERIALS

Required Text: "The Warren Buffetts Next Door". Matt Schifrin. 2010

For some of the projects, students will need to use any combination of the following:
- www.ssrn.com (Free)
- www.aaii.com ($49 Enhanced Membership Fee)
- "The Warren Buffetts Next Door". Matt Schifrin. 2010. ($20 on Amazon.com)

Lecture slides, handouts, homework assignments will be made available on the CTools page.

COURSE STRUCTURE

The students will be divided into 13 groups:
- ADRs only
- Consumer Staples
- Discretionary – excluding Retail
- Discretionary – Retail
- Energy
- Financial – excluding Banks
- Financial Banks
- Health Care
- Industrials
- Information Technology
- Materials
- Telecommunications
- Utilities

Except for the individual work for the virtual fund and the quiz, projects will be composed of group work. Each week, a sector update will be given from each group. However, in the following weeks, the homework assignments will not be based on assigned sectors. This way, all students will have the same opportunity to choose and critique stocks and funds, no matter what sector group they are assigned to. Also, although the class is not directly involved with the 'Maize & Blue Fund', feedback/results from the 'Risk & Stock Analysis of the Student Fund' project, and the stock pitches will be condensed and forwarded to the student fund board for their consideration.

Media
Through his connections at Forbes, SeekingAlpha and Benzinga, as an optional non-credit exercise, students may wish to write a quote/short paragraph/stock pitch/economic idea. Kai will take themes/stocks that come across during the semester and condense them into articles. Depending on the website, students may get the opportunity to write an entire article, or submit a one line quote. Again, this is an optional non-credit opportunity without any guarantee of publication.

TOZZI CENTER HOURS

Except for scheduled classes, workshops and clubs, the Tozzi Trading Floor is open:

Monday to Thursday	9:00 – 9:00
Friday	9:00 – 5:00
Saturday	10:00 – 3:00
Sunday	1:00 – 6:00

NOTE: The lab is open on **Saturday** and **Sunday, but there is NO REFERENCE HELP.** You are on your own.

The trading floor schedule is here:
http://www.bus.umich.edu/FacultyResearch/ResearchCenters/Centers/Tozzi/Lab/

GRADING

Your grade for the course will be determined as follows:

Individual

Virtual Fund Participation	5%
Class Participation / Weekly Sector Reports	5%
Quiz	10%
Peer Group Evaluation	5%
Exam	15%

Group / Individual

5 Factor Quant Screen	5%
Multi-Factor / Back-testing Quant Screen	5%
Valuation Project	5%
Risk & Stock Analysis of the Student Fund	10%

Group

Sector Quant Project	5%
Stock Pitch Presentation	10%
Trading Simulations	5%
Portfolio Analysis Presentation	15%

4. BRIEF OVERVIEW OF HOMEWORK ASSIGNMENTS
(more details later)

You should work on all the reports and cases in your assigned groups. All cases and reports are due at the beginning of the session indicated in the course outline. I will provide detailed descriptions of the case and report requirements as the course progresses.

Sector Quant Project

Create a screen that limits down to the sector, market cap, exchanges, common stock, price, price change, volume for your sector stocks. No multi-factor ranking. Just limits. Show weighting, PE, price/book, sales growth, and other ratios for the sector, industry groups, industries and sub-industries. This will help with weekly sector updates. Write up, no presentation. But each week, group will provide a sector update.

5 Factor Quant Screen

By expanding on the screen from the sector quant project, create a basic 5 factor quant screen. You can do this for the entire US market, ADRs, or a particular sector. No multi-factor ranking. Use > and < operations. Choose at least one factor from "value", "smart money" and "momentum" (provide brief description). Choose and explain two other factors (how it is calculated, source, justification for using it) from any of these sources: www.ssrn.com , www.aaii.com , or from Matt Schifrin's book, "The Warren Buffetts Next Door". Make sure to cite the source of the idea and why you chose it. Write up. No presentation.

Multi Factor Ranking & Back-test Project

Run a back-test on any 2 factors and the multi-factor ranking of the two factors together. Factors beginning with CQ or FG work well in back-testing. Show and interpret results. Modify the 5 factor screen from before and assign multi-factor weighting/ranking to each parameter (where applicable). Explain why you chose each weighting. Add 2 factors, so the quant screen becomes a 7 Factor Quant Screen. Write up. No presentation.

Valuation Project

Run a quant screen on any sector, or on the market as a whole. From the 1st page ONLY of the quant screen, take a total of 5 stocks. Choose 2 stocks from the bottom of the quant screen. Run a "quick" DDM, RIV, AFGview, eVal, PE*EPS, FactSet DCF on all 7 stock. Take screenshots of each. For each stock, make a 'football field' of stock valuations. Show the results and list 'key assumptions' and 'terminal values' and 2011/2012 EPS values from eVal. NOTE – use an 8% discount rate, 10 year horizon, 5% terminal growth rate, and 8% terminal ROE. If you can find a stock that looks good here and in the multi-factor project, it'll make the stock pitch much easier. Write up. No presentation.

Risk & Stock Analysis Project with the Student Fund

The Maize & Blue Fund manages a student fund. Let's presume that the student fund is a 'quant' and 'value' fund. Load the student fund into Barra. Load various benchmarks and find an appropriate benchmark. Analyze the risk. Run the 7 factor quant model that you made earlier, but limit to marketcap > 50 million. Look at the quant scores for stocks in student fund. Show analysis and results. Create quick valuation of stocks in fund. Based on quant scores, valuation, ratios and/or risk, do you agree/disagree with any stocks? Do you disagree/agree with sector allocations? Write up. No presentation.

Stock Pitch Presentation

Pitch a stock from any sector as a buy (NO HOLD, SELL or SHORT), but it MUST score well on quant screening for the sector, market or ADRs (1st page of 7 factor model), and it MUST look nice in valuation (at least in AFGview and/or eVal). Not every fund chooses stocks this way, but in this example, you are pitching the stock to a quant/value fund. Do not devote all of your time to pitching the product of the stock, or a media story about the stock. Pitch the stock as a quant/value pick. I don't expect a comprehensive stock pitch. Would the stock appeal to a value, growth, smart money, and momentum fund? Explain risks and why others might dislike the stock. Write up, and a 1 page handout to class, and a presentation to class.

Trading Simulations

Using UpTick, this is an in class trading simulation. No write up, no presentation.

Portfolio Analysis Presentation (certainly more information will come later)

Let's combine all the ideas together. Analyze 4 funds from any firm or combination of firms. Choose an 'index' fund, a 'value' fund, a 'global' fund and a 'midcap' fund. Analyze risk. Look at stocks in funds and compare to 7 factor quant scores. Run 'value', 'smart money', 'quality' and 'momentum' screens that Kai created – determine the 'value', 'smart money', etc… quant scores for the fund as a whole. By combining the risk analysis and quant scores, make a constructive educated guess as to the type of stocks that particular fund chooses. Choose stocks to remove from fund and explain why they were removed (quant, value or violation of fund?). Keeping with the style of the fund, choose stocks to add to fund and explain why they will be added. For example, if the fund is a momentum, midcap fund, then choose momentum midcap stocks. If the fund is a large-cap, global, value fund, then choose large, global, value stocks. Make sure to provide 'football field valuations', quant scores and useful ratios to justify your stocks. Remove and add stocks from fund in Barra. Show updated risk. If active risk changed, justify reasons for doing so.

Assume you were a fund of funds, and you could analyze the fund without fear of offending the manager. What questions would you ask? For example: In their personal opinion, does the name of the fund match the holdings? Which holdings may not belong? If you were marketing the fund, what benchmark would you choose? What stocks would they remove/add and why? If they were analyzing the risk of the fund, what benchmark would they choose? Would they increase the active risk of the fund, or lower it? Would they agree with the Morningstar rating? Does the analysis agree with the prospectus? And so on…

Create a write-up and a 2 page handout for each fund (don't provide handout to class). Presentation.

Virtual Fund participation

Make a $1 million virtual fund at www.marketocracy.com . Make the fund within the 1st 2 weeks of class. Make other funds if you wish, but that is not required, nor asked, nor counted. Feel free to buy and sell as many stocks as you like. I do not mark based on the fund returns, or the stocks selected. Choose any stocks, ETFs, etc… but, fund must follow these 'Compliance Rules'.

- No stock can exceed 25% of portfolio assets.
- Half of the portfolio must be made up of stocks of 10% (or less) of assets.
- Portfolio must be 65% invested.

At the end of the semester, submit a printout of the 'Overview', 'Basic Stratification', 'Volatility' and 'Compliance'

Kai will also create a virtual fund at Marketocracy that will track the stock pitches, and in the spirit of competition – hopefully beat the Maize & Blue Fund. More details to come.

COURSE OUTLINE

Session 1: Monday, January 10
Course Overview and Intro
Readings: "The Warren Buffetts Next Door. "Legendary Investor Incubators" Pg. 165-182.
Software: FactSet, Marketocracy
Cases Due: None. Create an account at Marketocracy. Feel free to make a virtual fund too.

Session 2: Monday, January 24
Various Stock Picking Techniques
Readings: "FactSet QuickStart" manual. Pages 5 - 34, 47-50, 55-57
                     The Warren Buffetts Next Door.
                               "The Oracle of Manitoba". Pg. 101-115.
                               "Mexican Gold". Pg. 117-133.
                               "Bear Market Hero". Pg. 149-164.
Software: FactSet, Bloomberg
Cases Due: Sector Quant Project. Virtual fund @ Marketocracy.com

Session 3: Monday, January 31
Quant Screening & Alpha Testing
Readings: "The Little Book That Beats the Market". Pages 138-144. "The Magic Formula"
                     "FactSet QuickStart" manual. Pages 41, 51-54
                     "10 Buys and 10 Sells for 2010" Forbes.com
                     "F Is for Fudging". Forbes.com
                     Screen Characteristics of the Piotroski Screen. www.aaii.com
Software: FactSet
Cases Due: Basic 5 Factor Quant Screen

Session 4: Monday, February 7
Stock Valuation – 9 Different Methods
Readings: "Equity Valuation and Analysis". Chapter #9, "The Cost of Capital".
                     "Why Apple Is Worth $80". At www.seekingalpha.com
                     "Economic Margin". At www.economicmargin.com/content/economic-margin
                     Bloomberg DDM, RIV and WACC overview.
Software: AFGview, eVal, FactSet, Bloomberg
Cases Due: Multi-Factor / Back-testing Quant Screen

Session 5: Monday, February 14
Putting it together: Quant / Value – How to do The Stock Pitch.
Software: FactSet, eVal, Bloomberg, AFGView
Cases Due: Valuation Project.

Session 6: Monday, February 21
Quiz
Software: None.
Cases Due: None.

Session 7: Monday, March 7
Stock Presentations
Software: FactSet, Bloomberg, AFGview, eVal.
Cases Due: Stock Pitch Presentation

Session 8: Monday, March 14
Portfolio Risk
Readings: "Quantitative Methods for Investment Analysis". Pages 649-659.
                 "Investment Analysis & Portfolio Management". Pages 292-302.
                 "Barra US Equity Model Long-Term (USE3L) Model Datasheet"
                 "Aegis Exchange-Traded Funds (ETF)"
Software: Barra
Cases Due: None.

Session 9: Monday, March 21
Putting it all together: Quant / Risk / Value – The Final Project
Software: FactSet, Bloomberg, AFGview, eVal, Barra
Cases Due: Risk & Stock Analysis of the Student Fund

Session 10: Monday, March 28
Transaction Costs, Taxes, Sell Discipline, Shorting and Other Issues
Reading: The Warren Buffetts Next Door. "Options Apostle". Pg. 15-34.
                 "Barra: Controlling Costs with the Market Impact Model"
                 "Bruised Quant Funds Seek a Human Touch". Eleanor Laise. WSJ.
Software: FactSet, Barra
Cases Due: None.

Session 11: Monday, April 4
Portfolio Analysis Final Project Presentations
Readings: None
Cases Due: Portfolio Analysis Presentation

Session 12: Monday, April 11
Portfolio Analysis Final Project Presentations
Readings: None
Cases Due: Portfolio Analysis Presentation

Session 13: Monday, April 18
Trading Games – UpTick (and Trading Technologies)
Readings: 'Price Formation' tutorial in the Tozzi trading lab.
Software: UpTick, Trading Technologies
Cases Due: None

Session 14: Monday, April 25
Final Exam
Readings: None
Cases Due: None