

Syllabus – Spring 2015

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Class lectures

Mon/Wed 12:00 – 1:50 PM Room: HOH 301

Office hours

Mondays 2:00 – 3:00 PM

Tuesdays 5:00 – 6:00 PM

Introduction and Course Objective

“Trading and Exchanges” will introduce you to the theory and practice of securities and contract trading at exchanges, in dealer networks, and among brokers. We will examine

- why and how people trade,
- who profits from investing and speculating, and when,
- the principles of proprietary trading and high frequency trading,
- why market institutions are organized as they are,
- how markets are changing in response to innovations in information technologies,
- the origins of liquidity, volatility, price efficiency, and trading profits, and
- the role of public policy in the markets.

To address these questions, we must understand why and how institutions, dealers, and individuals trade. Understanding trader behavior and how market structure affects trader behavior is the primary course objective.

Target Audience

This course is for anyone who wants to understand how markets work, how people trade, and when active investment management works and fails. The reading assignments and the class lectures are appropriate for students who have no market experience.

Experienced traders also will find this course to be valuable. Although you may already know much about market institutions, the economic perspectives that you will learn in this course will greatly improve your understanding of why some people make money while others lose money. Many brokers and dealers have learned much from this course. Students with substantial market experience have little advantage over other students other than initial familiarity with the jargon and institutions.

This course is of obvious interest to students interested in trading. It also will greatly benefit students who are interested in understanding the determinants of investment performance.

Learning Objectives

The objectives for this course are to develop your ability to understand, participate in, and manage trading processes within various market structures. This course will help you develop the following knowledge and skills:

- Global Objective
 - Understand trading terms, concepts, principles, and theories.
- Detailed Objectives
 - Understand how
 - markets operate,
 - traders behave,
 - market structure affects trader behavior, and
 - traders and trading companies lobby policy-makers on market design issues.
 - Be able to
 - construct optimal trading strategies to solve various problems,
 - evaluate and motivate brokers,
 - recognize various trading styles and determine when they will be profitable,
 - Predict who will profit from trading and who will lose,
 - Predict when and which markets will
 - be liquid and
 - have informative prices.
 - Identify trading risks and manage them.

Required Materials

- Larry Harris, *Trading and Exchanges: Market Microstructure for Practitioners* (New York, Oxford University Press, 2003, ISBN 0195144708). An errata sheet is posted on Blackboard.
- Larry Harris, *Trading and Electronic Markets: What Investment Professionals Need to Know* (Charlottesville, The CFA Institute Research Foundation, 2015, ISBN 978-1-934667-91-0), free PDF download available at <http://www.cfapubs.org/toc/rf/2015/2015/4>. Also available for free on Amazon Kindle.
- Daily access to the *Wall Street Journal*.
- CFA Institute, *Standards of Practice Handbook*, Eleventh edition (CFA Institute 2014, ISBN 978-0-938367-85-7), available for free at www.cfapubs.org/doi/pdf/10.2469/ccb.v2014.n4.1 and also available on Amazon Kindle for \$0.99.

This handbook provides an excellent introduction to the ethical issues that arise in trading and investment management.

Supplemental Materials

- John Downes and Jordan Elliot Goodman, editors, *Dictionary of Finance and Investment Terms*, 9th Edition (New York: Barron's Educational Series, 2014, ISBN 978-1438001401)
This inexpensive dictionary is useful for quickly defining financial jargon and concepts.
- CFA Institute Financial NewsBrief. This free resource provides a daily email that briefs important current financial news stories and provides links to the primary sources. Sign up at www.smartbrief.com/cfa. You should read it every day.
- Richard Bookstaber, *A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation*, (New York: John Wiley and Sons, Inc., 2007, ISBN 0471227277). An excellent summary of the main risk management issues in the financial markets.

- Edwin Lefèvre, *Reminiscences of a Stock Operator*, (New York: John Wiley and Sons, Inc., Reprinted 1993, ISBN 0-47105970-6, first published in 1923)

Reminiscences is a ghostwritten autobiography of Jesse Livermore. Livermore was a very successful stock and commodity speculator who traded in the late 19th and early 20th centuries. The author, Edwin Lefèvre, was a financial reporter who spent two months interviewing Livermore for this project. The text is a first-person narrative by a character called Larry Livingston, who clearly represents Jesse Livermore. The book is full of market wisdom and human wisdom. It is easy to read, engaging, and covers many of the topics of this course.

Prerequisites

1 from (BUAD 215 or BUAD 306)

Familiarity with Investments, Microeconomics, Corporate Finance, Information Technologies, and Statistics is helpful but not necessary. You will not be lost if you have not yet studied these subjects, but sometimes you may have to work harder than students who are already familiar with their principle concepts.

Other Course Materials

Copies of various supplemental course materials will available through your Blackboard account. I may use a password to protect some documents. If so, the password will be **TradeOn**. The password is case sensitive.

Grading Summary

		<u>% of Grade</u>
Term Project		30.0%
Tests	Pop quizzes	20.0%
	Midterm	20.0%
	Final Exam	<u>30.0%</u>
TOTAL		100.0%

The pop quizzes will be unannounced. They will be short—about 15 minutes long, and sometimes may have only one question. I will not reveal the total number of pop quizzes. I will drop the your lowest n quiz scores when computing your quiz total, where n will be 15% of the total number of pop quizzes, rounded up to the nearest integer. According, I will drop one quiz score if the number of pop quizzes is 6 or less, two if the number is between 7 and 13, and three if the number is between 14 and 20. If you are not in class on the day of a pop quiz, you will not receive credit for that quiz.

Final grades represent how you perform in the class relative to other students. Your grade will not be based on a mandated target, but on your performance, consistent with the policies of USC and the Marshall School of Business.

I consider four items when assigning course grades:

1. Your weighted-average standardized score for all exams. Since exams inevitably vary in difficulty, I standardize the scores by subtracting the class mean and dividing the result by the class standard deviation. I average these standardized scores weighting by the contributions of each exam to the course grade. For the purpose of computing the course grade, I base the standardization only on the scores of students who will receive non-failing course grades.
2. Your weighted-average exam score. This measure does not standardize the scores for each exam. It is equivalent to imagining that your course grade is based on a single exam with separate seatings occurring on each of the quiz and final exam days. Note that under this measure, missing a quiz on a day when the quiz is easy is worse than missing a quiz on a day when the quiz is hard.

3. Your ranking among all students in the class using the above two measures.
4. My impression of the overall achievement of the students in the course relative to that of other students in comparable courses that I have taught in the last few years or am presently teaching in other sections.
5. The course GPA recommended by the Marshall School for elective undergraduate classes.

ASSIGNMENTS AND GRADING DETAIL

Examinations

The examinations will consist of essay, one-sentence, one word, or multiple choice questions. I may mix the question types. I generally do not reveal the question types in my exams before I give them.

The midterm and final examination dates will not change. Please check now to see that you do not have any conflicts.

The pop quizzes, midterm, and the final examination all will be cumulative examinations. The quizzes will cover topics introduced since the previous quiz and also topics covered by previous quizzes. Since I occasionally reuse questions from previous quizzes and exams, I strongly suggest that you review your graded quizzes and midterm to ensure that you can correctly answer questions that you missed in the past.

Term Project

The term project will consist of a written proposal to implement an active trading or investing strategy of your own design. I will grade your proposal based on the quality of your analysis of its prospects and risks, and not on whether I expect that it would be profitable. Accordingly, to obtain an excellent grade, you need not conclude that your strategy will be profitable or that the risk of undertaking it would be acceptable. That said, I want you to take this assignment seriously. In particular, I expect that when you first select your strategy, you will have a reasonable expectation that it could be profitable. If I feel that your selection of a strategy suggests that you have not taken the assignment seriously, your grade will likely suffer. To avoid this potential problem, you should propose your strategy to me by turning in a short paragraph describing it using BlackBoard's Turnitin facility.

I do not want two students to be analyzing the same strategy. To avoid conflicts, you must post a short description of your strategy on a BlackBoard discussion board that I will designate. The first student to post a strategy will own the right to analyze that strategy. You can update your posting if you decide to analyze a different strategy.

The project should be turned in no later than the due date as a Word file through BlackBoard's Turnitin facility. Late submissions will receive reduced grades.

Please spell check and grammar check the document. If Word's spelling and grammar checkers identify problems that I also recognize, I will lower your grade. I will not lower your grade for language problems that Word does not identify, or for language problems that Word identifies but which I believe are not problematic.

Try to exclusively use active verbs and avoid passive verbs and passive sentence constructions: Your report will be shorter, easier to understand, and much more powerful. Use the proper tense for verbs. In particular, use the subjunctive tense when describing hypothetical situations. Wherever possible, use present tense. Short sentences are better than long ones. For examples, consider the following:

Instead of	Try
There are three reasons why ...	Three reasons explain why ...
This will ensure ...	This <<name what this is>> ensures that ...
When dividends are rising, ...	When dividends rise, ...
If the company had issued ...	If the company issues ...
It will be necessary to monitor the results closely to ensure ...	The trader must monitor the results closely to ensure ... <i>or</i> Monitoring the results closely ensures ...
Studies have shown that higher earnings have been associated with higher subsequent future returns...	Studies show that higher future returns often follow higher earnings.
If dividends rise, prices will rise.	Prices would rise if dividends rise.” <i>or</i> Prices would rise with dividends.
It would be best to buy on strength and then if the stock remains strong, hold until maturity because the costs of trading are high.	The trader should buy on strength. If the stock remains strong, the trader should hold until maturity to avoid high transaction costs.

A template for your report appears at the end of this syllabus. It is also available as a Word document on Blackboard. You must use it to structure your report. We will spend much time in class discussing the issues that appear in this template. To make it easier to read your project reports, please use Calibri (Body) 12 pt font for your text, single space the text lines, and do not right justify. (These specifications are built into the template.)

This project should reflect your work only, and you should be the only author of the report. This project is not a group project. However, with one exception, when developing your ideas, you may discuss your work with your classmates and others. (The exception: You may not discuss your work with any student in this or any other class who has chosen to analyze a similar strategy.) You also may seek editorial assistance to improve your writing. You must be responsible for everything you write. If I have any doubt about whether you fully understand and can defend what you have written, I may ask you to orally explain to me passages from your report. If you are unable to do so to my satisfaction, I will lower your grade. I may also take more serious action if I believe that you have violated the academic standards discussed elsewhere in this syllabus.

Homework

I occasionally assign homework. The homework is an integral part of this course and I expect everyone to do it, even though it does not count toward your grade.

I usually assign homework during the class session before it is due and post the assignment on Blackboard at least one day before it is due. The assignments will vary, but in general, they will be designed to ensure that you are keeping up with your reading and with current news about market structure.

Most students complete all the homework assignments satisfactorily and on time. In my experience, students who fail to do the homework assignments on time or who fail to take them seriously, also tend to do poorly on the exams.

USC Marshall Critical Thinking Initiative

The USC Marshall Critical Thinking Initiative is a school-wide effort to improve your critical thinking skills so that you can be more successful problem solvers in class and in the workplace. In this course, you will engage in a variety of learning activities that are aimed at developing and applying your critical thinking skills in a disciplined manner so that you can outperform others to get your desired job and to further excel in your career. Your ability to think critically is an important part of the evaluation/grading process in this course.

Discussion Board

The Blackboard discussion board for this class will be available for on-line discussions. If you have questions, post them to the board and your classmates or I will answer them. I sometimes answer questions quickly, and sometimes I let a question sit for a while, especially if the answer can easily be found in the book.

MARSHALL GUIDELINES

Add/Drop Process

This class is an open enrollment class (R-clearance) through the first three weeks of classes. If there is an open seat, you may freely add the class using Web Registration throughout the first three weeks of the term. If the class is full, you will need to continue checking Web Registration to see if a seat becomes available. There is no wait list for this course, and I cannot add students. However, I can drop you from my class if you don't attend the first two sessions. See <http://catalogue.usc.edu/academic/>.

Further, if you are absent six or more times before April 10, 2015 (the last day to withdraw from a course with a grade of "W"), I may ask you to withdraw by that date. These policies maintain professionalism and ensure a system that is fair to all students.

Marshall Grading Guidelines

Course Grading Policy: Marshall's recommended target mean GPA is 3.3 for undergraduate elective courses. I assign higher or lower average grades based on my perception of overall performance of the class in comparison to other classes I have taught and in comparison to my general expectations for students in the class.

Assignment/Exam Grading Policy: As the instructor, I determine what qualifies as an accurate grade on an assignment, exam, or other deliverable, and my evaluation of the performance of each individual student is the final basis for assigning grades for the course. I may delegate some grading to assistants, but I remain responsible for all grades.

I adhere to the following Marshall School standards for undergraduate grading:

- A Excellent quality work
- B Good quality work
- C Fair quality work
- D Work of minimum passing quality
- F This grade is awarded to any undergraduate student failing to meet the minimum standards for passing the course. The grade of F indicates that the student failed at the end of the semester or was doing failing work and stopped attending the course after the twelfth week of the semester.

Plus/minus grading (A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F) increases the basic five grades to a total of twelve possible levels of performance.

I interpret these standards as follows:

- A Mastery of course concepts, tools, and techniques, plus a solid understanding of implications, applications, and interrelationships. Ability to apply and express that understanding with meaningful oral and written language.
- B Solid understanding of course concepts, tools, and techniques, plus knowledge of implications, applications, and interrelationships. Capability to converse effectively in the terminology of the course.

- C Knowledge of course fundamentals. Basic understanding or awareness of finer points of course and discipline. Meets minimal expectations of course input criteria.
- D Weakly grasps the essentials of the course with little understanding of the finer points.
- F Unable to communicate an understanding of the basic concepts, tools, or techniques of the course. A failure to measure up to the basic course output goals.

Retention of Graded Coursework

Final exams and all other graded work which affected the course grade will be retained for one year after the end of the course *if* the graded work has not been returned to the student; i.e., if I returned a graded paper to you, it is your responsibility to file it, not mine.

Returned Papers

To protect the confidentiality of your work, you must pick up your own graded paperwork. I will not give your papers to anyone else. Students who miss class sessions when paperwork is returned must arrange for an appointment to retrieve the material.

Marshall Technology Policy

Laptop and Internet usage is not permitted during academic or professional sessions unless otherwise stated by the respective professor and/or staff. Use of other personal communication devices, such as cell phones, is considered unprofessional and is not permitted during academic or professional sessions. ANY e-devices (cell phones, PDAs, I-Phones, Smartphones, Blackberries, other texting devices, laptops, I-pads, ...) must be completely turned off during class time. Upon request, you must comply and put your device on the table in off mode and FACE DOWN. You also may be asked to deposit your devices in a designated area in the classroom. Videotaping faculty lectures is not permitted, due to copyright infringement regulations. Audiotaping may be permitted if approved by the professor. Use of any material or distributed material is reserved exclusively for USC students registered in this class.

Academic and Personal Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards at <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions>. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct at <http://policy.usc.edu/scientific-misconduct>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity <http://equity.usc.edu> or to the Department of Public Safety <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. Reporting incidents is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu> describes reporting options and other resources.

Support Systems

Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs www.usc.edu/disability provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information <http://emergency.usc.edu>

will provide safety and other updates, including ways in which instruction will be continued by means of Blackboard, teleconferencing, and other technologies.

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. For more information visit www.usc.edu/disability.

Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *SCampus*, the Student Guidebook, (www.usc.edu/scampus or <http://scampus.usc.edu>) contains the University Student Conduct Code (see University Governance, Section 11.00), while the recommended sanctions are located in Appendix A.

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>. Failure to adhere to the academic conduct standards set forth by these guidelines and our programs will not be tolerated by the USC Marshall community and can lead to dismissal.

Incomplete Grades

An incomplete (IN) grade may be assigned due to an “emergency” that occurs after the 12th week of classes. An “emergency” is defined as a serious documented illness, or an unforeseen situation that is beyond the student's control, that prevents a student from completing the semester. Prior to the 12th week, the student still has the option of dropping the class. Arrangements for completing an incomplete course should be initiated by the student, and negotiated with the instructor. Class work to complete the course should be completed within one calendar year from the date the incomplete was assigned. The IN mark will be converted to an F grade should the course not be completed.

Assignment Submission Policy

Assignments must be turned in on the due date/time electronically via Blackboard.

Evaluation of Your Work

I will do my best to make my expectations for the various exams clear and to evaluate your answers as fairly and objectively as I can. If you feel that an error has occurred in the grading of any question, you may, within one week of the date the exam is returned to you, write me a memo in which you request that I re-evaluate the assignment. Attach the original exam to the memo, and explain fully and carefully why you think the question should be re-graded. Be aware that the re-evaluation process can result in three types of grade adjustments: positive, none, or negative.

COURSE READINGS/CLASS SESSIONS

The midterm and final examinations will take place as scheduled.

I may modify the topic schedule to meet the needs and interests of the class.

The topics below correspond to chapters in the textbook. They are assigned readings that you must read before coming to class. Come prepared to discuss them.

The course meetings will primarily involve discussions and exercises. I will lecture sometimes, but we will primarily use the course sessions to reinforce the lessons in the readings, to discuss current events, and to expand upon the concepts presented in the readings. It is imperative that you read and study the assigned readings before coming to class.

If you are uncertain of an assignment, consult the course web pages on Blackboard.

Read the financial press every day. Come to class prepared to discuss current events in the markets. At a minimum, you must read the front page of the Money & Investing section of *The Wall Street Journal*. The business sections of the *New York Times*, *The Financial Times*, and *Investor's Daily* are also very good. Try reading the finance section of *The Economist* and any relevant special reports. Also, browse the CFA Institute Financial NewsBrief every day—it only takes about a minute. Serious professionals follow current events in their industry. Be a securities industry professional, if only for the next 17 weeks. Reading the news will help you get more out of this class.

I strongly recommend that you read *Reminiscences of a Stock Operator* at your leisure. It is entertaining and very interesting. Although written a century ago, most of its themes remain relevant today.

I also strongly recommend that you read Richard Bookstaber's *A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation*. This book provides an excellent summary of—and expansion upon—many of the concepts that we cover in this course. It is written at a level that you can understand now, but you will get more out of the book after you have completed the first half of this course.

Date		Topic
Jan 11	M	1 Introduction 2 Trading Stories 3 The Trading Industry
Jan 13	W	4 Orders and Order Properties
Jan 18	M	MLK Holiday — No class
Jan 20	W	4 Orders and Order Properties (continued)
Jan 24	M	5 Market Structures 6 Order-Driven Markets
Jan 27	W	6 Order-Driven Markets (continued)
Feb 1	M	7 Brokers
Feb 3	W	8 Why Do People Trade? 9 Good Markets
Feb 8	M	10 Informed Traders and Market Efficiency
Feb 10	W	11 Order Anticipators
Feb 15	M	Presidents' Day Holiday — No class

Date		Topic
Feb 17	W	12 Bluffing and Price Manipulation
Feb 22	M	13 Dealers
Feb 24	W	14 Bid/Ask Spreads
Feb 29	M	Midterm Examination
Mar 2	W	Trading game
Mar 5	M	15 Block Trading; Dark pools
Mar 9	W	16 Value-motivated Traders
Mar 14	M	Spring Recess Holiday
Mar 16	W	Spring Recess Holiday
Mar 21	M	17 Arbitrageurs
Mar 23	W	18 Buy-side Traders 19 Liquidity 20 Volatility
Mar 28	M	21 Liquidity and Transaction Cost Measurement
Mar 30	W	22 Performance Evaluation and Prediction
Apr 4	M	23 Index and Portfolio Markets 24 Specialists
Apr 6	W	25 Internalization, Preferencing, and Crossing
Apr 11	M	26 Competition within and among Markets
Apr 13	W	27 Floor versus Automated Trading Systems Electronic and High Frequency Trading
Apr 18	M	Term Project Due No class (Harris to speak at Q Group Meeting)
Apr 20	W	No class (Harris to IBKR annual shareholder meeting)
Apr 25	M	28 Bubbles, Crashes, and Circuit Breakers
April 27	W	29 Insider Trading; Ethics in Trading
May 2	M	Study day, no class
May 6	F	Final Examination, 11:00 AM - 1:00 PM
May 13	F	University Commencement

CONTACT INFORMATION

Addresses and Telephone Numbers

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You may call me at home, but please not before 7:00 AM, after 9:30 PM, on Friday night, or on Saturday.

How to Reach Me

1. Drop in during office hours—no appointment is necessary. My office is in Hoffman 806. My office hours this semester are:

Mondays	2:00-3:00 PM
Tuesdays	5:00-6:00 PM
2. Arrange to meet me by appointment.
3. Just drop in. I am in my office most days. It is best (but not necessary) to call ahead to make sure I am available and not occupied.
4. Call me on the telephone. If you leave a message, please speak slowly and clearly when you give your phone number. You may call me at work, home or on my cell phone. Please do not call me at home before 7:00 AM, after 9:30 PM, on Friday night, or on Saturday.
5. Arrange to dine with me before or after class. Consider inviting your classmates too.
6. Send me e-mail at LHarris@USC.edu. While I am always happy to take questions about course topics, I prefer to respond orally rather than by e-mail. The opportunity to listen and respond generally produces more effective learning. Also, if you have course topic questions, please post them to the Blackboard discussion board where a classmate may answer the question first, and where everyone can see my responses.

Term Project Template

<<Title>>

<<Your first name followed by last name as they appear in my grade book)>>

1. Executive Summary

Provide a short description of your trading/investing strategy and briefly explain when and where you expect it to work and why. This executive summary will provide an overview of the rest of your document and it should contain nothing not discussed elsewhere.

1.1. Brief description

1.1.1. Instruments, markets, sectors

1.1.2. Investment procedures

1.2. Brief discussion of expected profitability

1.2.1. Expected comparative advantage

1.2.2. Expected costs

1.3. Brief discussion of expected risks

1.3.1. Sources

1.3.2. Management procedures

1.4. Implementation issues

1.4.1. System requirements

1.4.2. Data requirements

2. Development Procedures and Costs

Identify the development procedures necessary to implement your strategy and try to quantify (to the extent possible) the associated costs. Identify the information sources you use to form your cost estimates.

2.1. Research

2.1.1. Back testing

2.1.2. Pilot studies

2.2. *Data costs*

2.3. *Systems development*

3. Characterization of Expected Opportunities

Identify where and when you expect that your strategy will be profitable and identify and explain the bases of your expectations.

3.1. *Expected time horizon*

3.2. *Expected number of opportunities per year*

3.3. *Who loses to this strategy and why?*

3.4. *What does profitability depend on?*

3.4.1. *Time dependence?*

3.4.2. *Event dependent?*

3.4.3. *Volume dependent?*

4. Risk Management

Identify and try to quantify (to the extent possible) the risks of your strategy. Design and describe systems to control these risks.

4.1. *Risk Characteristics*

4.1.1. *Model-based risks*

4.1.2. *Macroeconomic risks*

4.1.2.1. Domestic risks

4.1.2.2. Foreign risks

4.1.3. *Market risks*

4.1.4. *Factor risks*

4.1.4.1. Industry risks

4.1.4.2. Style risks

4.1.5. *Firm-specific risks*

4.1.6. *Liquidity risk*

4.1.7. Regulatory risks

4.1.8. Competitive risks

4.2. Risk management strategy

4.2.1. Hedging

4.2.2. Dynamic trading

5. Implementation Costs and Benefits

Identify and estimate the costs and benefits of running the strategy. Identify the information sources you use to form your cost estimates.

5.1. Capital Costs

5.1.1. Quantity required

5.1.2. Interest costs

5.1.2.1. Margin interest

5.1.2.2. Stock loan fees/Short interest rebate

5.2. Transaction costs

5.2.1. Explicit costs

5.2.2. Implicit costs

5.3. Operational costs

5.4. Benefits

5.4.1. Expected interest or dividends

5.4.2. Stock loan fees

6. Basis for Expected Comparative Advantage

What is the basis for expecting that the strategy will be profitable?

6.1. Evidence

6.2. Competition

6.2.1. Capacity of the idea

6.2.2. Is the strategy precise or orthogonal?

6.3. Expected persistence

7. Suitability

For whom is the strategy appropriate?

7.1. Risk

7.2. Tax issues

8. Monitoring, Evaluation, and Adaption Procedures

Describe how you will monitor, evaluate, and adapt your strategy to ensure that it meets your expectations and responds to changing market conditions.

9. Expected Profitability

Try to provide quantitative predictions of the expected profitability of your strategy. Include a discussion of, and if possible, a quantification of your uncertainty. Identify the information sources you use to form your cost predictions.

10. Investment Discipline

What characteristics of the foregoing would you identify with “investment discipline”?