Faculty Member Contact Information

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Description of the URCA Assistant Position

This posting includes one funded position. In addition, the faculty member may be willing to mentor additional, unfunded students.
How many unfunded students is this professor taking in addition to his/her one funded student? __0__
(Students, if the faculty member will have both funded and unfunded students, he or she is free to select which student receives the funding. Funding cannot be split up between multiple students; only one student will receive it.)

Which of the following apply to this position?

[X] This position is **only** open to students who have declared a major in this discipline.
[ ] This project deals with social justice issues.
[ ] This project deals with sustainability (green) issues.
[ ] This project deals with human health and wellness issues.

How many hours per week will your student(s) be required to work in this position? __9__
(Minimum is 6 hours per week; typical is 9.)

Will it be possible for your student(s) to earn course credit? [ ] Yes [X] No
If yes, in which course? N/A **If yes, for how many credit hours?** N/A

Location of research/creative activities: Econ and Finance Department

Brief description of the nature of the research/creative activity:

Can an investor improve her portfolio performance through a collar strategy? An Empirical Investigation

Purpose and Importance:

Financial theory recommends that investors follow a buy and hold strategy, where they should stay invested until they need the funds for consumption. A classic problem would be a typical 401(k) retirement account problem where the recommendation is for the investor to invest the money in a diversified portfolio of securities until retirement, and then make gradual withdrawals to support living expenses. The driving force behind this approach is the widely held Efficient Markets Hypothesis (EMH) - originally proposed by Eugene Fama [See Fama(1991)]. There are some obvious advantages to this strategy - low transaction costs, lower tax bite et cetera. However, the 2000 and 2008 stock market crashes have devastated the account values and left many investors unable to support themselves in retirement - leading some to start questioning the EMH. Clearly, an investor with downside insurance would have fared quite well in these two crashes as her downside risk would have been limited by the insurance bought on the portfolio. In the financial parlance, such downside insurance is known as a put option which allows an investor to be compensated if the portfolio value declines below a pre-set level. Of course, buying such insurance is costly and investors often pay for it by selling a call option - essentially giving up the gain if the portfolio (or the stock) rises above a preset level - without incurring any upfront expense. This combination of buying a put and selling a call option is known as a collar - effectively giving up some of the upside for the downside insurance.

Clearly, if markets are indeed efficient, implying that all securities are correctly priced, the portfolio, the call, and the put should be all correctly priced. Therefore, under EMH, such a collar strategy should not lead to any investor benefit in the long term. However, there is an increasing belief among practitioners that the use of such option strategies can improve returns

Therefore our goal is to empirically test if option strategies can improve the results over buy and hold strategies. Specifically, we shall study if an investor can improve her portfolio performance by holding the S&P Composite Index (an diversified index of 500 large companies often chosen as a proxy for the US stock market), along with a collar on S&P Composite.

Hypothesis:

Consistent with the EMH, the collar strategy is expected to perform equal to the buy-and-hold S&P Composite position. Therefore, our null hypothesis is that there will be no difference in the performance, over the long-term, between a buy-and-hold S&P Composite, whether hedged with a collar or not.

Data and Methodology:

Data for this experiment will be used from OptionVue 6.0, ThinkorSwim trading platform, and data created by Capital Management Investor Services (CMIS), Inc. The ThinkorSwim trading platform will be used to establish this option positions and the data will be analyzed on a daily level. This pricing data is available on all puts and calls on S&P Composite as well as the value of the S&P Composite. This data is sufficient for out study.

Our empirical experiment will consist of what would be termed a "horse race". We shall create two portfolios - a buy-and-hold S&P Composite position and an otherwise identical position in S&P Composite hedged with a collar. A test of statistical significance in the difference of performance between the two portfolios will indicate if the prediction of EMH (implying no difference) is indeed true.

Time Frame and Expected Results:

We expect to conduct and finish this project in Spring 2012. We expect the null hypothesis to be true, thereby indicating no difference between the performances of the two portfolios.

Brief description of student responsibilities:
Collect data
Analyze data in EXCEL
Finalize the results
Write the results

URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?
A deeper understanding of the research project
Familiarity with the stock market and options market data
Proficiency in EXCEL and report writing

Requirements of Students
If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours), please indicate all required days and times:
To be decided as per our schedules

If the location of the research/creative activities involves off campus work, must students provide their own transportation?
Not applicable

Must students have taken any prerequisite classes? Please list classes and preferred grades:
FIN 320
FIN 431 (presently enrolled in good standing)

Other requirements or notes to applicants:
EXCEL