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Adapting STOCK-TRAK® in Executive M.B.A. Investment Education

Weiyu Guo, Curt Bayer and David Blair

Abstract

STOCK-TRAK®'s on-line stock market game, adapted to the Executive M.B.A. format, provides a valuable, motivational learning tool for the program's more mature and experienced students. At the University of Nebraska at Omaha, Executive MBA student reaction to STOCK-TRAK® has been overwhelmingly positive each of the three years it has been employed. Given Executive M.B.A. programs' focus on applicative knowledge, STOCK-TRAK® provides a relevant, hands-on investment experience that promotes learning, retention and application. Educational values derived from use of STOCK-TRAK® can be better assured by understanding the limitations of the game, particularly when employed in an Executive M.B.A. program delivery format.

Introduction

Explicitly or implicitly, the objectives of many investment courses include the investigation of the principles involved in building an investment portfolio, learning financial analysis of securities,

and understanding the practices and procedures of the securities markets. Each year, to achieve such objectives, over 600 investment professors across the country enroll their classes in STOCK-TRAK®, a service offered by Stock-Trak Portfolio Simulations of Atlanta, Georgia¹. STOCK-TRAK® is a discount brokerage service simulation with a pre-specified investment capital base. Participating students can trade various financial assets such as stocks, bonds, mutual funds, financial, commodity and foreign currency futures, and stock and stock index options on their STOCK-TRAK® accounts.

Schools that have used STOCK-TRAK® range from top-flight universities including Harvard, University of Chicago and Pennsylvania State University² to small community colleges. While the majority of classes employing the STOCK-TRAK® simulation are traditional undergraduate or graduate courses, based on three years of experience using STOCK-TRAK® in the University of Nebraska at Omaha Executive MBA program, this paper suggests that STOCK-TRAK® can provide an excellent teaching tool for Executive M.B.A. 'Investment' classes as well.

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^{1&2} Data are from the web page of STOCK-TRAK® at <http://www.stocktrak.com>.

The STOCK-TRAK® Investment Simulation Service

When they register for the STOCK-TRAK® service, students receive a brokerage account with a pre-specified pseudo-cash balance. Students can trade stocks, bonds, mutual funds and other financial securities on their STOCK-TRAK® accounts. For stock trading, students trade on 20-minute delayed real time market prices. Trade orders can be placed online, by fax, by email, or by phone and a pseudo-commission is charged for each one way transaction. Statements listing account balance, transactions made, any loan balance, interest earned, portfolio return and same period S&P500 return are provided to students once every week for a small charge. STOCK-TRAK® provides a user-friendly Website where students can place orders, view their account statements and trading summaries, and can access the STOCK-TRAK® research desk for investment research reports. On the STOCK-TRAK® home page, students can also view their individual results along with the class-ranking. This feature adds to the project's competitive nature.

Investment class professors choose the initial pseudo-cash balance of either \$100,000 or \$500,000 for their students' accounts. A recent program change that gives professors the flexibility to choose the beginning and end of the trading period, instead of using a semester conforming period, makes it more practical to employ STOCK-TRAK® in Executive MBA programs with irregular academic terms. Professors can review student trading activities via a weekly *Professor Summary* that provides detailed account activities for each of the STOCK-TRAK® accounts in their class. When registering their class, professors are also given a free STOCK-TRAK® account so that they can trade with their students if they choose to do so. An interest-only STOCK-TRAK® account, that can be used as a benchmark portfolio for

performance comparison, is also provided for each registered class.

Unique Characteristics of Executive M.B.A. Students

Executive MBA students possess unique characteristics that make it appropriate and practical to adapt a STOCK-TRAK® simulated portfolio project in their investment class. In general, Executive MBA students are more financially sophisticated and active as investors when compared to traditional undergraduate and graduate students. Whether they manage their money themselves or have their investment portfolios managed by professionals, Executive MBA students have typically gained at least a minimum investment knowledge through their experience in overseeing their pension contributions, be it a 401K or other type of retirement account. For this, if no other reason, they have a genuine interest in learning more about the stock market, fixed-income securities, even the option markets, and in learning some "new skills" that they can apply in practice. This interest is reflected in Table 1 – at the end of this article -- that shows that financial analysis and investments were rated the most useful subject matter, post-graduation, by University of Nebraska at Omaha Executive MBA program 1998-2000 graduates.

Experienced MBA faculty would agree that delivery is crucial in teaching an Executive MBA course, no matter how important the subject matter is. Compared with traditional MBA students, the Executive MBA students are, in general, more demanding and they are more interested in real world experiences and examples than in academic formulations and textbook examples. To teach an Executive MBA course effectively, professors need to create an interactive, interesting, reasonably challenging learning environment. These expectations can be well satisfied with the STOCK-TRAK® program.

STOCK-TRAK® gives Executive MBA students the opportunity to identify real investment opportunities, in a real economic environment, and invest in them - without risk- in order to test the investment theories and concepts discussed in class. Through this mechanism, their judgments on the current economic and corporate environments, and on the factors that generate change in those environments, can be tested and analyzed in real financial markets. Such challenges, in turn, further stimulate their interest in the subject matter. Having extensive work and management experience, Executive MBA students typically possess an in-depth understanding of business in their particular industry. As a result, they are able to provide both classmates and professors with insight into their industry that is valuable when considering investment opportunities. Finally, given that most Executive MBA students are well-motivated, highly competitive, and successful in their careers, STOCK-TRAK®'s class-ranking service provides an extra incentive for the students to apply themselves in order to become the most successful investor in their class.

Incorporating STOCK-TRAK® Into An Executive MBA Investment Class

STOCK-TRAK® can be incorporated into a class project to motivate students to gain investment knowledge by becoming interested and active participants. Assignments to make a number of transactions on stocks, bonds, and stock options after they are discussed in class will give students the opportunity to learn about the trading mechanics of each security as well as how the financial markets are operated. Self-motivated Executive MBA students often go well beyond the scope of class assignments in trying to research and identify the best investment opportunities. Their desire to know more about investment vehicles provides the professor a perfect opportunity to introduce appropriate theories and empirical research findings. An

example of an option trading assignment can illustrate this point clearly. Given the increasing impact of stock option trading on the underlying spot stock markets, the topic of stock options is a standard chapter in today's MBA investment textbooks. After presenting the basic concepts of stock options, a visit to the Chicago Board of Trade Web site to obtain option quotes and ticker symbols and to make a trade will demonstrate that options with various maturity months and/or exercise prices are available for the same stock. This exercise vividly demonstrates that large numbers of derivative securities are generated from the underlying assets and how option exercise can impact the underlying cash stock markets. Further, when trying to buy an option contract, students become seriously interested in knowing which maturity and exercise price should be considered. In the near-real world context of the STOCK-TRAK® simulation, they will well remember the guidelines and implications of option trading that have been presented to them.

STOCK-TRAK® can also be used to give students an opportunity to employ and evaluate different investment strategies. For example, most students know that when they are bullish on a stock, they should buy and wait for the chance to sell at a higher price - buy low and sell high so to speak. However, few are initially familiar with the concept of short sale - a strategy of selling high first then waiting for the opportunity to buy back at a low price later. Short selling is a widely used investment strategy when investors anticipate the price of a security is going to fall. Although it is unlikely that students will end up shorting stocks as a primary investment strategy, attempting the practice on STOCK-TRAK® gives them a risk-free opportunity to experience the process and observe the effects - an experience that will help them understand and recall the impact of short sales on the stock markets.

When learning about puts, an assignment to buy a put to protect the down side

risk of a stock in their STOCK-TRAK® portfolio prompts students to examine the risk of the stocks in their portfolio. The exercise helps students understand the costs of hedging and allows the logical introduction of the concept of a natural hedge. The exercise can further help students understand how mutual fund managers use puts to protect their portfolio, and how hedging can affect the underlying stock markets.

In our Executive MBA program's STOCK-TRAK® project, students do not necessarily have to make money in their trading to receive credits for the project. But they are required to invest with a goal in mind and are encouraged to invest according to their risk tolerance. They need to satisfy three project requirements: basic trading, trading report and a final trading summary. The trading report assignment requires the student to present the basic information on a stock they trade, along with new reports on the firm that motivate the transaction. The purpose of the assignment is to encourage students to find reliable sources of expert information on their investments.

At the end of the course, a trading summary that recaps their trading activities is required. In the summary, students are expected to review their investment goals; the investment strategies used to achieve these goals; and analyze their results relative to the goals. An assessment of whether the investment strategies are consistent with the student's risk tolerance is also required. It is no surprise that some students find that their "actual" risk tolerance is quite different from what they thought it was before the STOCK-TRAK® project began.

To make STOCK-TRAK® more than just an investment game, a security analysis project is introduced to accommodate student interest in applying the security analysis techniques they learn in class to identify good investment opportunities. Given their insights into the economy and their industry, they often come up

with surprisingly sound and timely investment research reports. Most of the Executive MBA students not only have good presentation skills but also welcome the opportunity to give presentations to their classmates. Thus, offering them the opportunity to present their research results not only motivates them to put in more effort on the assignment, but also lets them enjoy the assignment more.

The STOCK-TRAK® investment simulation project provides a learning challenge that is enhanced by timely and objective feedback. In the reasonably competitive environment it fosters, carefully designed investment assignments generate good class discussions, and students enjoy learning. Feedback from the Executive MBA students at the University of Nebraska at Omaha confirms that the students approach the investment course looking to expand their knowledge of investment techniques, valuation analysis, and market structures. However, the most anticipated aspect of the course is the STOCK-TRAK® project.

The majority of the Executive MBA students indicate they find themselves too involved with their career and family to actively manage their investment portfolio or retirement plan. While they all listen to the talking heads on CNN and CNBC, and have some understanding of the operations on their own industry, few students have a thorough understanding of securities markets and valuation. Reading assignments and lectures with a free flow of questions and discussion serve to provide students information regarding market and industry history, as well as a knowledge of various investment options and the methods used to value those investments.

The STOCK-TRAK® program expands on those experiences, giving students a virtually real world opportunity to implement investment types and strategies they had not previously considered. Sharing the investment plan and

results in class provides further opportunity for students to discuss the investment experience and to expand their investment knowledge. It is not unusual for some of the best learning experiences to be the personal experience of the instructor and students shared in class.

Potential Concerns and Possible Solutions

The biggest concern of using STOCK-TRAK® in an Executive MBA program is amount of time required to obtain a reasonable learning benefit from the project. Typically, at our university, an Executive MBA investment course is scheduled to be completed in 12 weeks. Even with some custom scheduling, it is difficult to stretch an investment class to over four months. In such an environment, long-term STOCK-TRAK® investment strategies generally will not be competitive in the class-ranking. While most Executive MBA students acknowledge that successful investing is a long-term endeavor, when faced with the short-term, class-competitive STOCK-TRAK® program, they often forego conservatism and depreciate risk in their desire to become the class investment guru. They may take aggressive positions in stocks, bonds, and futures as well as actively pursue put and call options. In short, students frequently execute orders for investments they would never choose to make with their own money. The mere doubling of one's initial capital in four months is often on the conservative end of a student's expectations. Their typical goal is to lead the class with the most gain - or the least loss - as the case may be. Competition within the class is both spirited and fierce as each student or group works to prove their investment acumen. Accordingly, students tend to make high-risk investments in search of a higher return. For example, one group's approach was to take aggressive positions in a few highly volatile stocks. This approach included buying stocks, selling short, and investing in both put and call options. While the group lost almost forty percent

over the term of the STOCK-TRAK® project, the group claimed that they did benefit from the process by doing analysis and making trades they most certainly would not have otherwise experienced.

While there is no option to lengthen the duration of an investment class such that students can employ and evaluate long-run investment strategies, several measures can be adopted to minimize the short-term orientation concern. From the outset, it needs to be emphasized that the purpose of the STOCK-TRAK® exercise is not to encourage short-term trading. The intent of STOCK-TRAK® is to introduce students to the operation and functions of securities markets. It is an educational tool to promote students' interest in investing and to make learning a realistically challenging, yet fun, experience.

To some degree, professors can tailor the STOCK-TRAK® simulation for their classes. They can limit the number of transactions students can make throughout the whole investment game, and can limit the size of the trades or the types of securities that can be purchased. To encourage students to diversify their portfolios, professors can establish required minimum number of securities be in each portfolio and can set out position limits. Such requirements force students to diversify their investments and to not risk everything on a few stocks.³

One of the objectives of the STOCK-TRAK® project is to give students the opportunity to test trading strategies they normally would not employ if it was their money. Engaged students will trade actively and may turn over the stocks in

³ STOCK-TRAK® provides some position limits but in general, they are very broad, e.g., stock, option, and future positions are limited to fifty percent of the initial cash balance.

their portfolio quickly. Some may even attempt to "day trade". While this kind of activity is not encouraged, neither should it be restricted. Students should be encouraged to not only test active but also passive investment strategies. To provide contrast, students can be provided with a second account (for a nominal fee) so that they can have one buy-and-hold account and another actively managed account. A trading summary at the end of the project will also give students the opportunity to review and learning from the experience.

STOCK-TRAK®'s open class-ranking service acts as an incentive for the Executive MBA students to work hard in order to outperform their classmates. It also motivates students to accept high risks in hope for higher returns. To counter-balance this tendency, professors should express concern about student preoccupation with the class-ranking. To motivate students to excel in the course, as well as to ease the "embarrassment" students might feel when their portfolio's class-ranking is low, professors can award extra points to the most successful investor, and provide a small bonus to the last place finisher as well. The intended message is that even though the best investor can be proud, there is no shame to finish last either since the objective of the STOCK-TRAK® project is education and not maximizing portfolio return. STOCK-TRAK® is a tool for exposing students to the securities markets. Students should care about what they are doing, but not be overly concerned about the return on their portfolios lest they miss out on the educational experience.

Finally, given that the experience students gain from the STOCK-TRAK® trading activities is in short-term trading, students should also be exposed to the benefits of long-term investing. Success stories of long-term investors, such as Warren Buffett, provide excellent examples to show students that investing is an art and that it requires a life long commitment.

Conclusions

In our experience, STOCK-TRAK® is easily adaptable to the Executive MBA format and provides a valuable, motivational learning tool for the generally more mature and experienced students found in such programs. Student reaction to the project has been overwhelmingly positive each of the three years it has been employed. Student surveys at course completion have singled out the STOCK-TRAK® project for special commendation. Given the imperative in most Executive MBA programs to focus on applicative knowledge, STOCK-TRAK® provides a relevant, hands on investment experience that promotes both learning, retention and application. However, given the short-term nature of the STOCK-TRAK® program, it should be stressed that STOCK-TRAK® is intended as an educational tool to familiarize students with the mechanics of investing and to promote students' interest in learning. Students should also be exposed to the benefits of long-term investing and various investing styles.

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| Table 1. Executive MBA Program Graduate Survey*: “How useful has the subject matter been to you in your career?” Rating Scale: Extremely Useful 1 ← 3→ 5 of No Use | | | | | | | | | | |
|--|-----------------------------------|----|-------------|----|-------------|----|-------------|----|---------|----|
| Subject Matter | Subject Rating & Relative Ranking | | | | | | | | | |
| | 1997 (7/24) | | 1998 (9/19) | | 1999 (5/14) | | 2000 (4/12) | | Wtd Avg | |
| Financial Analysis & Investments | 1.71 | 1 | 1.56 | 3 | 1.60 | 2 | 1.59 | 1 | 1.6 | 1 |
| Financial Management | 2.00 | 3 | 1.22 | 1 | 2.40 | 12 | 1.75 | 3 | 1.76 | 2 |
| Applications in Economics | 2.14 | 4 | 1.56 | 3 | 2.00 | 9 | 2.50 | 8 | 1.98 | 3 |
| Contemporary Economics | 2.29 | 6 | 2.00 | 8 | 1.50 | 1 | 2.00 | 5 | 1.98 | 3 |
| Financial Accounting | 2.50 | 9 | 1.44 | 2 | 1.80 | 5 | 2.75 | 12 | 2.02 | 5 |
| Legal & Ethical Considerations | 2.57 | 11 | 1.89 | 6 | 2.00 | 8 | 1.50 | 1 | 2.04 | 6 |
| Marketing Strategies | 2.17 | 5 | 2.25 | 13 | 1.60 | 2 | 2.00 | 5 | 2.06 | 7 |
| Managerial Accounting | 2.50 | 9 | 1.78 | 5 | 2.20 | 10 | 2.00 | 5 | 2.11 | 8 |
| Human Resource Management | 2.57 | 11 | 2.22 | 12 | 1.60 | 2 | 1.75 | 3 | 2.12 | 9 |
| Administrative Policy & Strategy | 1.86 | 2 | 2.11 | 10 | 2.60 | 14 | 2.75 | 13 | 2.24 | 10 |
| Management Information Systems | 2.86 | 15 | 2.00 | 8 | 2.25 | 11 | 2.00 | 5 | 2.29 | 11 |
| Marketing Management | 2.67 | 13 | 2.25 | 13 | 1.80 | 6 | 2.50 | 8 | 2.32 | 12 |
| Management & Organizational Theory | 3.14 | 16 | 1.89 | 6 | 1.80 | 7 | 2.50 | 8 | 2.32 | 12 |
| Production Operations & Analysis | 2.43 | 8 | 2.86 | 16 | 2.40 | 12 | 2.50 | 8 | 2.60 | 14 |
| International Financial Management | 2.67 | 13 | 2.38 | 15 | 3.40 | 17 | 2.75 | 13 | 2.72 | 15 |
| International Marketing | 2.33 | 7 | 3.11 | 17 | 2.80 | 15 | 3.00 | 16 | 2.81 | 16 |
| International Monetary Economics | 3.83 | 17 | 2.13 | 11 | 3.00 | 16 | 3.23 | 17 | 2.96 | 17 |

* Surveys are conducted at University of Nebraska at Omaha. Classes of 1997, 1998 and 1999 surveyed Fall 2000. Class of 2000 surveyed Summer of 2001.