

Hamilton, 2007). Nunnally and Evans go even further and define “‘Harvard’ type cases as being quite open-ended and offer[ing] students the opportunity to analyze a financial decision situation in the context of several pertinent factors ...”.

3. Authority is a term regularly used by librarians to refer to the reputation and/or respect of an author or publisher. A source that has high authority is more highly trusted than is one with low authority. Librarians spend a large portion of their time training students to locate and evaluate the authority of information sources. In this way the quality of the research is promoted.

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Managing the Free-Rider Effect in a Top-Down Security Analysis Course

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As an example of managing the free-rider problem, we report our experiences related to integrating group work associated with the top-down approach to fundamental analysis. Using group projects and sharing information with other groups and students is an effective method to reduce the work load for each individual student, while maintaining the scope of the top-down approach. By changing the composition of the groups at each level of the top-down approach, we are able to reduce the free-rider effect inherent in group projects. Overall, our methodology accomplishes the following three objectives: (1) reducing student workload, (2) sharing information, information sources, and analysis, and (3) reducing the free-rider problem. We find that 88% of the students agreed or strongly agreed that the top-down approach “had more educational value as a group project than as an individual project.” We also find that 82% of the students agreed or strongly agreed that changing the group composition helped reduce the free-rider problem.

INTRODUCTION

We use the top-down approach to illustrate several instructional techniques to manage the free-rider effect inherent in group projects. The top-down approach to security analysis (Reilly and Brown, 2009) typically involves evaluating in the following order: global economies, major markets (regions and/or categories), industries (or sectors), and a company. The analysis of each of the four components in a top-down approach by every student enrolled in the course would be an overwhelming task. By placing students in groups, the work load becomes more manageable. However, groups create a free-rider issue for the instructor. That is, some students do little or no work, knowing that a grade is assigned to the group and not to the individual. We describe our implementation of the top-down approach in a security analysis course and the instructional techniques we used to manage the free-rider effect.

Many universities have student-managed investment funds. These prestigious programs provide a great benefit to those students selected to participate. However, these programs have limited enrollment, and can select only a small portion of the student population to participate. Students selected tend to be highly motivated, willing to embrace the extra workload required in such a course. A student-managed investment fund operates as a transparent group in the analysis and selection of portfolio assets. The competitive environment drives each student to perform at a peak level. Hence, within such a course, personal accountability is the great motivator, governing the free-rider effect.

A top-down approach to a security analysis course allows more students to participate in the investment decision making process. Our use of groups allows students to apply the financial theories and paradigms taught in a security analysis course in a manner similar to the experience of a student-managed investment fund. Further, our group approach requires students to have personal accountability to their peers, which reduces the free-rider approach. In addition to market efficiency, most security analysis courses include exposure to various investment paradigms, such as fundamental analysis and technical analysis. The focus of this paper (and our security analysis course) is on fundamental analysis, specifically the top-down approach.

In the next section, we describe the course requirements for the four components of the top-down approach and how groups are formed for the three group projects. Next, we discuss how we manage the free-rider effect for both the group projects and the individual company report. After discussing the results of student survey questions, we present our concluding remarks.

COURSE MANAGEMENT

First Group Project: Global Economic Analysis

At our university, the prerequisites for the security analysis course are the introductory finance course and an investments course. Typical enrollment in the security analysis course is 30 students. During the first week of the security

analysis course, the instructor reviews the top-down approach. In the second week, we begin the first step in the top-down approach, the global economic analysis.

For the global economic analysis, we divide the students into four Global Groups (because the class size is about 30 students, each group has 7 or 8 members). Each Global Group is assigned a group of countries, such as: North America, Europe, Asia and the Emerging Markets. Each group is required to provide forecasts of real GDP for the world economy as well as for their assigned region (and the major countries in their assigned region). The Global Groups are given two weeks to complete their work, which includes posting their report on their region on a course management system (e.g., Blackboard) and an oral presentation of the analysis to the class. After each Global Group posts and presents its major findings and projections to the class, each student is required to evaluate and include the relevant information from all four groups in his/her company analysis.

Second Group Project: Market Analysis

Next, students conduct the market analysis phase of the top-down approach. We divide the students into six Market Groups (given the class size, each group has about 4 or 5 members). Each Market Group is assigned two indices. One assigned index is an equity-index corresponding to Morningstar's Investment Style, and the other is a major world index. After each Market Group posts and presents its major findings and projections to the class, each student is required to evaluate and include the relevant information in his/her company analysis.

Third Group Project: Sector/Industry Analysis

For the sector analysis, we divide the students into twelve Sector Groups (given the class size, each group has 2 or 3 members). Each Sector Group is assigned a sector, as defined by Morningstar. Each group must evaluate a sector using Porter's Competitive Forces model (Porter 1980, 1985) and incorporate data from other real-world sources (i.e., Morningstar and Value Line industry summaries, etc.). The main objective is for the group to predict the short-term and long-term growth prospects for its assigned sector. Each group also is required to predict the sector with the highest growth potential during the current year. After each Sector Group posts and presents its major findings and projections to the class, each student is required to evaluate and include the relevant information in his/her company analysis.

Company Analysis: An Individual Project

Finally, each student, individually, is required to perform and present a company analysis. We use the CFA Institute's template for the Global Investment Research Challenge, GIRC. However, we also incorporate additional material into the template. After discussing how to write a research report using articles like Wright (2010), students are provided with examples from the CFA Institute's web site. In addition to his/her written analysis, each student is required to make a five-minute presentation to the class.

MANAGEMENT OF THE FREE-RIDER EFFECT

We manage the free-rider effect by (1) randomly assigning students to the groups, (2) changing the group composition, (3) changing the group size, (4) requiring students to evaluate each student in their group, (5) requiring each group to make a group presentation with each member subject to being questioned by the class and/or instructor, and (6) requiring each individual to write and present a research report. Finally, near the end of the term when students are presenting their company analysis, we require each student to indicate which companies presented he/she would purchase and which stocks he/she would sell, based on the company reports presented that day.

Our university enrolls about 13,500 students, with approximately 2,000 students in the College of Business. Most of our students went to high schools in communities within a 100 mile radius of our location, are of traditional college age, and work approximately 15-20 hours per week. Students in the security analysis course are typically seniors, if not in their last semester of school, and they have had numerous finance and business courses with each other. As such, there is a high degree of familiarity and camaraderie amongst the students.

We address the student familiarity aspect of the free-rider issue by randomly assigning 7 or 8 students to each of the four Global Groups. Random assignment eliminates deliberate formation of groups of friends or those who attempt to align themselves with known high achievers. We use an unstructured group design in that we do not assign a leader for the group and we do not give any instruction as to how the groups are to operate. We expect each group to establish its own rules of operation. The unstructured nature of groups in our course is not a great concern to our students, given that most of them have had a formal introduction to group dynamics in previous core business courses in our BBA program.

The initial group is not a permanent group for the course. We change group composition two more times, such that each student is in three different groups, and in each group with different students. Changing groups increases the accountability of each student to others and reduces the tolerance of students for free-riders. In each of these subsequent groups, the Market Group and the Sector Group, we again do not assign roles for the group members. Each of these groups also must determine how it will operate to achieve its goals.

Within each group at all three initial levels, students receive a group project grade based on the posting and on the presentation. Each student evaluates each other student in his/her group, with the evaluation counting for 10% of that student's group project grade. Although an individual student does not know how the other group members evaluated him/her, the instructor does know the name of each evaluator and his/her evaluation scores. In addition, when the project is discussed in class, each student is asked at least one question about his/her group's conclusions. This answer represents 20% of the student's project grade. By the end of the first three stages of the top-down analysis, a student will have three

project grades. Evaluation of individual performance within the group comprises 30% of each of the three project grades. To date, we have not felt a need to alter the 10% and 20% individual grade components as a means of manipulating the free-rider effect. This remains an option for future offerings of the course.

In addition to changing the group composition to manage the free-rider effect, we also change the size of groups (and number of groups), gradually decreasing the size of each group from 7 or 8 students in the Global Groups, to 4 or 5 students in the Market Analysis Groups, to 2 or 3 students in the Sector Groups. The final project is an individual project, where each student must use information from previous steps to write and present his/her report. Our experience indicates that smaller group size reduces the free-rider effect by increasing the accountability of each student to the others in the group. With fewer students in a group, the importance of the work of each student becomes magnified. In a 2 or 3 person group, a free-rider is more likely to receive a lower evaluation from group members and from the presentation.

Finally, our approach deals with what we call a passive free-rider effect. In many situations, students may passively attend and ignore other groups' presentations. In many classes, what the other groups present is irrelevant to students not presenting. That is, the information posted/presented by those groups would not be needed by the student later in the course. In our application of the top-down approach in a security analysis course, each student must be an active listener to each group because each student must write and present his/her own final company report that must be backed up by and consistent with information posted/presented by other groups in the first three levels of the top-down approach. Second, during the last weeks of the semester, five to seven students present a five-minute company analysis to the class. In the last 15 minutes of each day of student presentations, each student in the class is required to submit a short, written report indicating which of the companies presented that day he/she would buy/sell, and provide a justification for his/her decision based on the information presented. These reports are another part of the student's grade. Students must be active listeners, and each student has peer pressure as an additional incentive to provide useful information.

STUDENT PERCEPTIONS

At the end of the spring 2009 and spring 2010 term, students enrolled in the class completed a survey about the integrated top-down approach with groups. Students indicated the education value of each of the course's group activities. Eighty-eight percent of the students from the 2009 course and the 2010 course either agreed or strongly agreed that the economic analysis provided more educational value as a group project than as an individual project. Similar results were found for the market and sector analyses. Although there are some neutral responses, half of the students either disagreed or strongly disagreed that the company analysis would have more educational value as a group project.

The students also believed that changing the composition of the groups reduced the free-rider effect. Over 82% of the students agreed or strongly agreed with the statement that “having the group members change for the economic, market and sector analyses helped reduce the free-rider problem that frequently occurs in group/team projects.” Only 6% of the students agreed or strongly agreed that having the same group members for all levels of analysis would have been a better educational experience.

CONCLUSION

We use groups in our security analysis classes to enhance the educational value of the top-down approach. We successfully incorporated a number of techniques to manage the free-rider effect. Specifically, we randomly assign students to groups, change the composition of the group for each project, require each student to evaluate other group members, and have each student use the information provided by each group and individual student. These techniques could be implemented as is, or in conjunction with other techniques that manage the free-rider effect. Our experience with using groups in this environment was positive for us as instructors and for the students because our methodology: (1) reduced the student workload, (2) allowed for sharing information, information sources, and analysis, and (3) mitigated the free-rider problem. In the end, all students are required to work in order to gain knowledge to earn a high grade in the course!

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Learning About Market Microstructure and Price Discovery Using Experimental Markets

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This study introduces the use of an instructor-developed trading simulation to teach intrinsic value estimation, price discovery, and market mechanics. It provides the reader with a cost efficient solution to deepen students' understanding of financial markets and the price discovery process. By using a multi-week time frame we allow students to analyze the financial information of the companies in the simulation as well as to develop strategies to exploit the market structure and price discovery process. Thus, this simulation combines the importance of financial analysis with the awareness of the impact of liquidity and market organization on price discovery.

THE ROLE OF DEEPER INFORMATION AND EXTERNALITIES IN CASE STUDIES

Students are often interested in learning how to make money in the stock market and hearing stories of how savvy investors have parlayed spare change into great fortune. Finance professors, however must balance that enthusiasm with a thorough treatment of the risk-return tradeoff, market

efficiency and other key financial concepts. Successful students are able to apply this financial theory to investment practice. Institutions of higher learning are having great success in bridging the gap between theory and practice through innovative programs. These programs include the adoption of the Chartered Financial Analyst curriculum, acquisition of state-of-the-art computing technology and data feeds such as Bloomberg, Compustat and Reuters and the