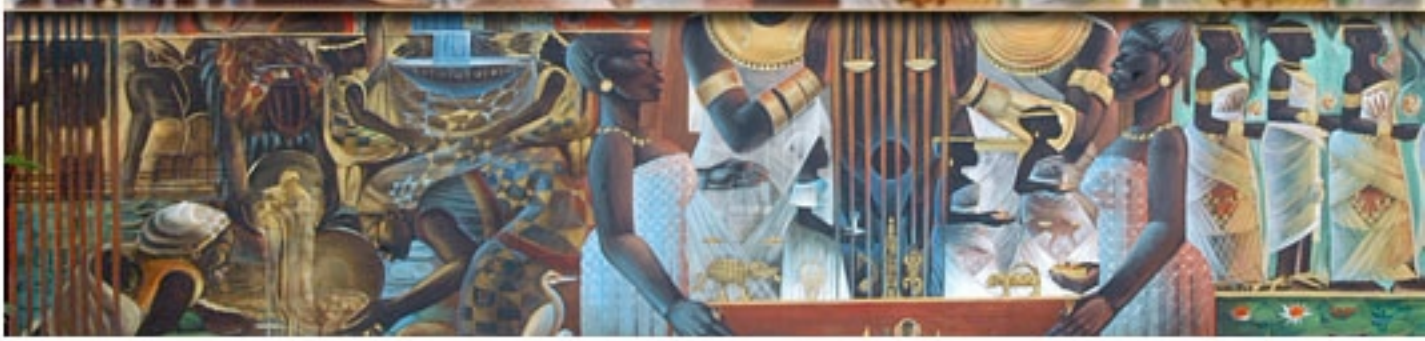
Southwestern Business Administration Journal

SBAJ Volume 7 Number 1 Spring 2007



Texas Southern University
Jesse H. Jones School Of Business

Southwestern Business Administration Journal Vol. 7 No. 1 Spring 2007

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

ISSN: 1554-7892

SBAJ Volume 7 Number 1 Spring 2007

The *Southwestern Business Administration Journal (SBAJ)* is a refereed publication. The aim of this journal is to provide a forum for current thoughts, techniques, theories, issues, trends, and innovations in teaching and learning within the business administration field. Its general focus is to enhance the teaching and learning process. The SBAJ is published in spring and fall of every year. All manuscripts submitted to the journal will be subject to a double-blind referee process.

Manuscript authors are encouraged to submit their manuscript in electronic format. This should be in the form of an email attachment transmitted to: sbaj@tsu.edu OR ayadi_fo@tsu.edu (note: Ayadi_fo)

EDITORIAL BOARD

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

SBAJ VOLUME 7 NUMBER 1 SPRING 2007

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

SBAJ ISSN: 1554-7892

MANUSCRIPT GUIDELINES FOR PROSPECTIVE AUTHORS

SUBMISSION FORMAT:

- Manuscripts should be in English
- Manuscripts should be typed on a standard size paper (8.5" by 11") and must not exceed 25 pages, including references, appendixes, tables, and figures.
- The manuscript must use Microsoft Word or rich text format and should be typed in a 12-point font. It must be double-spaced (excluding references, appendixes, tables, and figures). All margins are one inch.
- The title page should include the title of the manuscript and appropriate contact information (authors' names, affiliations, complete address, contact numbers, and e-mail addresses).
- The second page should repeat the title of the manuscript and a brief (not to exceed 100 words) abstract. Excluding title page, the manuscript should not contain the name of the author or any affiliation that would allow the reviewer to determine authorship
- Main headings should be centered and typed in all capitals. Example: INTRODUCTION.
- Secondary headings should be typed, flush with the left margin and in small letters, with major words beginning with capitals. Example: Learning Models.
- Tables, figures, and graphs should be included where they are discussed. Do not include notations like "Insert Table 1 About Here".
- Do not paginate within the manuscript. Pencil in page numbers on the bottom of the hard copy.
- Do not use footnotes in your manuscript.
- Citations should be made in the text by inclosing the cited author's name and the year of the work cited in parentheses.

Example: Several studies (Johnson, 1999; Smith, 1998; Green, 1997) support this finding, OR, Results reported by Ball (1985) suggest ……..

- Direct quotations must give a page number(s); these follow the date of publication and are separated from it by a colon. Example: Johnson indicated that writing is a difficult process (1995: 6).
- Periodical reference example:
    - Johnson, C. L. (1994). The art of writing. *Academy of Management Journal*, 32, 112-125.
- Periodical reference example:
    - Jacobs, B., & Gurley, M.A., (1990). When writing works. *Studies in Management*, 33, 75-87.
- Book reference example:
    - Johnson, C. L. (1994). *The art of writing*. New York, Macmillan.
- Working paper reference example:
    - Becker, K.L. & Kepler, H.R., (2004). How to finance a budget deficit. NBER Working Paper No. 398. Retrieved September 23, 2004 from the National Bureau of Economic Research database.
- References to materials on the internet must be given in brackets in the text such as:
    - www.tsu.edu/businesspaper.html (with download date indicated)

ASSUMPTIONS:

- Authors have submitted original work and made every effort to ensure accuracy of the manuscript.
- Accepted ethical standards have been applied in the research and/or preparation of the manuscript submitted for publication.
- Authors have obtained appropriate permissions so that the publication of the manuscript would not violate any copyright or any personal or proprietary rights of others.
- Publication decisions are based on the recommendations of the journal's editorial board. Submissions are typically assigned to at least two reviewers for consideration. Weak or inappropriate submissions may be returned to authors without formal reviews.

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

SBAJ ISSN: 1554-7892

Board of Reviewers

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

SBAJ **ISSN: 1554-7892**

SUBSCRIPTION ORDER FORM -- Personal

The annual subscription rate for the SBAJ is $50. For overseas order, please add $10 for delivery.

Name:_____

Title:_____

Institution:_____

Address:_____

City:_____ State:_____

Zip Code:_____ Country:_____

Make your check or money order payable to Jesse H. Jones School of Business, Texas Southern University.

Send your order to: Editor, Southwestern Business Administration Journal, Jesse H. Jones School of Business, Texas Southern University, 3100 Cleburne Street, Houston, TX 77004, USA

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

SBAJ **ISSN: 1554-7892**

SUBSCRIPTION ORDER FORM -- Institutional

The annual subscription rate for the SBAJ is $150 for institutions. For overseas order, please add $20 for delivery.

Name:_____

Title:_____

Institution:_____

Address:_____

City:_____ State:_____

Zip Code:_____ Country:_____

Make your check or money order payable to Jesse H. Jones School of Business, Texas Southern University.

Send your order to: Editor, Southwestern Business Administration Journal, Jesse H. Jones School of Business, Texas Southern University, 3100 Cleburne Street, Houston, TX 77004, USA

SOUTHWESTERN BUSINESS ADMINISTRATION JOURNAL

SBAJ **ISSN: 1554-7892**

EDITORIAL ADDRESS

Manuscript authors are encouraged to submit in electronic format. This should be in the form of an email attachment transmitted to: sbaj@tsu.edu OR ayadi_fo@tsu.edu (note: Ayadi_fo)

Authors who choose to send hard copies should submit three copies of their manuscripts to:

Dr. Felix Ayadi, Editor
Southwestern Business Administration Journal (SBAJ)
Jesse H. Jones School of Business
Texas Southern University
3100 Cleburne Street
Houston, Texas 77004
Phone: 713-313- 7738;
Fax: 713-313-7722
Email: ayadi_fo@tsu.edu (Note: ayadi_fo)

JOURNAL URL:

http://www.tsu.edu/academics/business/SBAJ/index.asp

STUDENTS' KNOWLEDGE OF THE AMERICAN MONEY SYSTEM AND TAXES: AN INQUIRY

Ramon Fernandez, University of St. Thomas, Houston, Texas
Cheryl Prachyl, University of Texas – Arlington, Texas
Carol Sullivan, Central Washington University – Des Moines, WA

ABSTRACT

Most Americans recognize the importance of money and the impact that taxes have on their disposable income. Accounting students should be aware of the effect of taxes on available income. The purpose of this study is to examine how well accounting students understand how the dollars generated through taxation are used by the federal government. The questionnaire asks about students' general knowledge of aggregate amounts of tax revenue, and how the revenues are used by the federal government. The study will also explore students' attitudes about the importance of these issues being included in their business curriculum.

INTRODUCTION

Most Americans recognize the importance of money in their lives and the impact that taxes have on their disposable income. Accounting students, with their training in the area of taxation, should be especially aware of the effect of taxes on their available income. They also should have knowledge of how the tax dollars are being used to fund the activities of the American government. Given the significant portion of income that Americans pay in taxes, they should know how those tax dollars are being used.

With citizenship, Americans have a responsibility to maintain a society that favors the public interests. Citizens for Pubic Accountability is an organization that believes that 1) public funds are only to be spent in the public interest, 2) decisions to expend public funds involve balanced and extensive information, and 3) a high quality and healthful environment is developed and maintained for all citizens. In Canada, a group called Citizens' Circle for Accountability actually recommends the use of a citizen's audit

process at the last resort strategy for public accountability. The American Council of Trustees and Alumni (ACTA) is an organization founded in 1995 that is committed to excellence and academic freedom at America's colleges and universities. Although they have never specifically criticized business education, they have voiced concern over student illiteracy with respect to the United States and curriculum problems that have led to this alleged illiteracy (Martin and Neal, 2002). This project is a proactive attempt to identify possible curriculum deficiencies in business education and an endeavor to create citizen interest in American fiscal affairs and accountability.

RESEARCH BACKGROUND

Gravois (2006) asserts that American colleges and universities do not encourage "civic literacy" in their students' educational experiences. The conclusion was based on survey results from students at 50 different higher education institutions. The survey asked questions about American history, political science, and economics and scores were only 1.5% higher for seniors as compared to freshmen. The overall scores were equivalent to a failing grade. Rear Adm. Michael Ratliff, a senior vice president at the Intercollegiate Studies Institute, maintains integrated learning is important -- but he said it all comes down to basic knowledge. His quote is as follows: "We think that critical-thinking skills, basic skills of analysis and synthesis, are very much what the university should be focused on, but we also believe that if you cannot place in their proper sequence major events in American history, then you're not going to be able to achieve that critical thinking."

Accounting students are often taught the major rules associated with tax accounting. They do not always consider the political and social impact of those rules. A major shift in the responsibility of accountants has been from preparer to communicator so accountants have a greater responsibility to understand the how the system of taxation operates to provide services and redistribute wealth. Computers can efficiently process transactions. The accountant now has a greater responsibility to analyze and interpret accounting information. In a recent study of Accounting education, Steve Albrecht and Robert Sack recommended that the accounting

curriculum should emphasize "Accounting and Its Role in Society." They also recommended that the curriculum should include "Using Accounting Information to Make Decisions", "Using Accounting Information in Different Industries", and "Tax Accounting and Its Effect on Decision Making" (Sack, R., 2001).

RESEARCH-PURPOSE

The purpose of this study is to examine how well accounting students understand how the dollars generated through taxation are used by the federal government. The questionnaire asks about students' general knowledge of the aggregate amounts of tax revenue and how those revenues are used, by the federal government. The study will also explore students' attitudes about the importance of these issues being included in their business curriculum.

One pubic university's students were surveyed to investigate students' knowledge of the American tax receipt/outlay and foreign trade information as well as their perceptions regarding whether they have ever been taught this type of material in their curriculum. Finally, their opinions related to whether these issues should be a part of their business education is requested. The data survey instrument used in the study is provided on the next set of pages. The two major research questions are:

- ☐Are university students knowledgeable/aware of the amounts of tax money collected and the way in which the money is being spent?
- Do students think that these ideas should be taught as a component of their education?

DATA GATHERING PROCESS AND THE SURVEY INSTRUMENT

One public university's students were used for this research project. The respondents were specifically students taking classes in the business school of the university. Each student was given a brief background for the study. Each participant was asked to complete the demographic information and then do their best to answer the knowledge questions found in the instrument. No reward or punishment was given for right or wrong answers, nor were there any

benefits or consequences associated with answering the opinion questions in a certain way. Each survey was completed in an anonymous fashion.

Because the survey took very little time to complete, there was no problem with experimental mortality or maturation effects. An attempt to discern history effects was made with questions related to school and course experience. The subjects were selected randomly after the specific university and specific university classes were chosen for the study. There was no possibility of multiple treatment interaction with the experimental design.

The survey instrument is designed to gather the following types of information: 1) basic demographic information, including tax and not-for-profit course experience, and other educational experiences specifically related to taxes, 2) a test of knowledge about tax receipts/outlays and foreign trade, 3) respondents' perceptions associated to the degree of confidence in their answers to the test questions, and 4) two questions (one yes/no and one why/why not question) about whether they believe that this type of information should be a part of business education.

SURVEY RESULTS

Demographic information, school experience, and tax experience results are found in Table 1.

Table 1: Participants' Demographic Information

Number of Participants: 51 **Usable Responses:** 51 (however, there blanks on some questions)	
Taken a Tax Class: Yes: 25 No: 26	**Student Gender:** Female: 32 Male: 19
Student Classifications: Freshman: 1 Sophomore: 11 Junior: 7 Senior: 19 Graduate: 10 Blank: 3	**Years Paying Taxes:** Mean: 11.6 years Std. Deviation: 8.15 Minimum: 2 Maximum: 45
Professors Taught You about Receipt/Use of Tax Money?: Yes: 10 No: 41	

Although there are few students that have freshman classifications, the sample consists of a diverse cross-section of people who have taken a tax class and a wide variety of classifications overall. There were more women taking the survey than men; however, this study does not expect significant differences in knowledge based on gender and does not conduct a gender analysis on the research questions. The students, on average have spent over a decade paying taxes, but most of the participants indicated that they have not been taught tax receipt/use concepts in their classes. An analysis of their tax receipt/outlay knowledge responses was conducted and the results are provided in Table 2.

Table 2: Students' Summary Knowledge Results on the Survey (T = Trillion, B = Billion, M = Million)

Topic	Correct Answer	Mean Answer	Standard Deviation	Minimum	Maximum
Total 2000 Budgeted Receipts	$2.025 T	$6.90 T	$13.585T	$1B	$50T
Increase/ Decrease in Budgeted Receipts	50%	13%	16%	-20%	50%
Total 2000 Budgeted Outlays	$1.789T	$23.93T	$49.84 T	$50 M	$150 T
Increase/Decrease in Budgeted Outlays	18%	16%	12%	-8%	30%
Gross National Debt in 2000	$5.629T	26.78T	$70.61 T	$25 B	$300 T
Increase/Decrease in Gross National Debt	14%	8.84%	15%	-10%	50%

The students answers to these dollar-value questions were quite erratic, yet they systematically overestimated their answers overall. However, they seemed to systematically underestimate the percentage increase in these figures. That finding is quite unusual, but it may be caused by students' lack of exposure to any dollar amount knowledge with these issues. A bit of a problem with the survey process was that many participants did not do any estimating on the questions and left them blank when they were unsure. These statistical results are based on smaller sample sizes of answers than the actual participant sample size. Therefore, one very high estimate may be causing the higher dollar values found in these averages. The

minimum and maximum statistical information may be helpful in this analysis.

While students seemed to estimate some answers relatively well, some answers were particularly surprising. For example, one person thought that the Gross National Debt in 2000 was $300 trillion. They were in error by more than $304 trillion. Additionally, one person thought that Federal Funds and Grant outlays were $500 trillion and this amount was more than $498 trillion in error. The entire 2000 Budgeted receipts were only $2 trillion. There were other people that seemed to think that the American budget scale was simply in millions. The low estimate errors were more than $1 trillion in error. These findings imply that there is a loss of number sense when people start dealing with large dollar values. While these people could probably estimate the cost of a car within $10,000, the sheer volume of the federal government tax receipts/outlays seems to distort their estimation process.

Table 3 provides results of the participants' perceptions related to confidence in their answers. Students' confidence levels were quite low, for the mean on almost all the questions corresponded to the "Not Really Aware of This Concept" and there were no instances of students being "Very Confident" about their responses. At least one person responded "Never Learned This" to every question. The findings of this aspect of the survey may well indicate that most of the students' responses were mere guesses rather than educated estimates.

Table 3: Students' Degree of Confidence Results on the Survey - Summary Knowledge
(1 = Very Confident, 2 = Somewhat Confident, 3 = Not Sure, 4= Not Really Aware of This Concept, 5= Never Learned This)

Topic	Mean Answer	Standard Deviation	Minimum	Maximum
Total 2000 Budgeted Receipts	4.1	1.0	2	5
Increase/ Decrease in Budgeted Receipts	4.1	.93	3	5
Total 2000 Budgeted Outlays	4.2	.90	3	5
Increase/Decrease in Budgeted Outlays	4.2	.90	2	5
Gross National Debt in 2000	3.8	1.0	2	5
Increase/Decrease in Gross National Debt	3.8	.97	2	5

Table 4 summarizes the results of the students' estimate of individual outlay items (defense, public health, public education, federal funds and grants) as well as the trends associated with these outlays. The students' estimates of defense spending were significantly higher than the correct answer and all the mean students' estimates were higher than the actual amounts. These answers correspond to the overestimation of the summary information, so the students do understand the relationship between the summary results and the individual governmental spending items. The range of answers indicates a bit of guessing again though.

Table 4: Students' Individual Outlay Results on the Survey (T = Trillion, B = Billion, M = Million)

Topic	Correct Answer	Mean Answer	Standard Deviation	Minimum	Maximum
Defense	$337.7B	$5.97T	$19.58T	$5M	$65T
Increase/Decrease for Defense	8.9%	3.2%	18.4%	-30%	20%
Public Heath	$1.299T	$5.01T	$15.00T	$10M	$45T
Increase/Decrease for Public Health vs. 1995	31%	6%	14.2%	-5%	35%
Public Education	$700B	$3.34T	$89.92T	$10M	$30T
Increase/Decrease for Public Education	17%	.43%	12%	-25%	10%
Federal Funds and Grants	$1.637T	$85.85T	$2.03T	$50M	$500T
Increase/Decrease for Federal Funds and Grants	20%	3.5%	11.7%	-10%	25%

Students' confidence level results for the individual outlay information are provided in Table 5. Again, students' confidence levels were quite low and the mean on all the questions corresponded to the "Not Really Aware of This Concept". There were also no instances of students being "Very Confident" about their responses with any category. Finally, at least one person responded "Never Learned This" to every question in this aspect of the survey too.

Table 5: Students' Degree of Confidence Results on the Survey- Individual Outlay Information
(1 = Very Confident, 2 = Somewhat Confident, 3 = Not Sure, 4= Not Really Aware of This Concept, 5= Never Learned This)

Topic	Mean Answer	Standard Deviation	Minimum	Maximum
Defense	3.9	1.0	3	5
Increase/Decrease for Defense	4.0	1.0	2	5
Public Heath	4.0	1.0	2	5
Increase/Decrease for Public Health vs. 1995	4.0	1.0	2	5
Public Education	4.0	1.0	2	5
Increase/Decrease for Public Education	4.1	1.0	3	5
Federal Funds and Grants	4.2	1.0	3	5
Increase/Decrease for Federal Funds and Grants	4.0	1.0	2	5

Table 6 responses involved the U.S. trade imbalance figures. While the correct answers indicate about $500 billion trade deficit, students' mean responses indicate that most people thought that the United States exports were greater than imports. The big gap in the increase percentage of imports was not really known by the students based on their answers. Maximum answers may also be outliers and skewing these estimates though.

Table 6: Students' Foreign Trade Knowledge Results on the Survey (T = Trillion, B = Billion, M = Million)

Topic	Correct Answer	Mean Answer	Standard Deviation	Minimum	Maximum
U.S. Imports	$1.218T	$11.2T	$33.31T	$10M	$100T
Increase/Decrease in U.S. Imports	64%	10.3%	17.1%	-20%	40%
U.S. Exports	$782B	$12.9T	$33.99T	$50M	$90T
Increase/Decrease in U.S. Exports	34%	6.75%	9%	-5%	20%

The degree of confidence in foreign trade knowledge answers is summarized in Table 7.

Table 7: Students' Degree of Confidence Results on the Survey- Foreign Trade Information (1 = Very Confident, 2 = Somewhat Confident, 3 = Not Sure, 4= Not Really Aware of This Concept, 5= Never Learned This)

Topic	Mean Answer	Standard Deviation	Minimum	Maximum
U.S. Imports	4.0	1.0	2	5
Increase/Decrease in U.S. Imports	4.0	1.0	3	5
U.S. Exports	4.1	1.0	2	5
Increase/Decrease in U.S. Exports	4.0	1.0	3	5

While there is not a specific place in higher education to teach citizenship and public finance issues, it was somewhat disappointing to find that students had very limited exposure to these tax receipt/use concepts in spite of their business education and tax course experiences. Means on all questions were very high, with no average to any question being any more confident than "Not sure". Minimum perception levels of "Not sure" were very limited and every question had at least one person indicate that they had never learned the concept. In spite of ACTA's lack of criticism of the business schools' s curriculum, the results of this part of the survey do indicate an economic illiteracy with respect to American public finances issues.

Attitude results are found in Table 8. People with "Yes" related to whether this information should be included in their business education outnumbered dissenter by more than a 2-1 margin. Qualitative reasons for the "Yes" answers seemed to focus on the "informed citizen" ideal and a way to better understand business and economic conditions in general. The "No" answers seemed to emphasize a more limited approach to business education.

Table 8: Yes/No Question Regarding Curriculum

Do you think that your business education should include this information?

Yes : 31 **No:14**

(6 people left this question blank)

Answers to the "Why or Why Not?" Question for Respondents answering "Yes"

"It is good to know about, but to this much detail."
"It is informative and I am going to learn this."
"This is important information that affects and defines our economy, which in turn affects business."
"Because we need to know this information to become better aware of our economy."
"U.S. Citizens should know this."
"Very interesting information"
"It would be nice and informative to know about the taxes and how much the government allocates to the different needs in the economy."
"Next time I have to take a test like this, I will not look so stupid."
"The economy governs much of what we do – especially with increased globalization."

Table 8: Yes/No Question Regarding Curriculum
"Everyone should understand the workings of the government."
"Sounds like important stuff."
"In order to better understand where our tax dollars are being spent."
"Apparently I know nothing according to this test. I would like to know at least a little bit."
"These are current events."
"Because our education and knowledge of the world is important."
"We should at least know what is going on currently in the business world."
"Be aware of spending of the US and the impact this has on the economy."
"Might be helpful."
"Being more aware of today's business issues will prepare us for the real world."
"This seems like a basic questionnaire that a soon-to-be graduate should be able to answer, but cannot."
"Only to the extent that it makes me an more informed taxpayer."
"With exceptions – the foreign trade information should be included in an economics class and the rest should be in some sort of current events class."
"I think this information should be included in how you look up the information."
"It would be interesting to know how the government spends our money."
"So that I can intelligent talk of the issues mentioned in this questionnaire."
Answers to the "Why or Why Not?" Question for Respondents answering "No"
"Business should teach you how to arrive at numbers, not what they are."
"This is for economists, not anything else."
"They are numbers which may be important to someone with authority, but as a student I am more concerned with the concept of business rather than a number."
"Not a business major; don't care."
"These funds vary from year to year; there is no reason to learn specific numbers."
"Who remembers percentages anyway."
"Because it will change every year and isn't relevant but why the changes occur."
"Too political."
"If I were an economics major working for the federal government, then I would feel like this sort of information is pertinent."
"General concepts should be taught, not specifics; useful for public service or political science majors."

CONCLUSIONS, LIMITATIONS, AND POSSIBLE FUTURE RESEARCH

The results of this survey research support the conclusions related to the Intercollegiate Studies Institute found in Gravois (2006). Students were very weak with respect to their knowledge of these tax receipts/outlays and foreign trade. Their perception results signify a possible weakness in their business education; most of the people noted that they had never learned the tax or even not-for – profit finances despite taking tax classes and other accounting courses. The good news is that the majority of respondents were interested in learning about these issues.

Generalizations about accounting education should not be made based on this study. The results are limited to some classes at one particular school in one specific location. Also, it would be difficult to determine whether the results are robust with respect to time even though there were respondents of many different ages involved. It would be intuitive to think that people who have spent more time paying taxes would be more knowledgeable; however an analysis of the correlation between age and knowledge was not conducted in this study and may be a fertile area for future research.

Future research may be necessary to study the research questions more carefully. School comparisons and academic discipline comparisons would be interesting. As taxes continue to be a major expense in most Americans' budgets, the findings of this study may have important implications for developing the curriculum in accounting education. Based on the findings of this study, many Americans have almost no idea how their taxes are being spent or how much money the United States government uses to conduct its affairs. Someone who receives a business education should be familiar with how tax monies are used. This study examines this issue to identify whether accounting students have this knowledge. As suggested in "Accounting Education: Charting the Course Through a Perilous Future," accounting students should understand the role that accounting information plays in the activities that our federal government can accomplish with the use of the tax dollars it generates.

REFERENCES

Gravois, J., (2006). Colleges fail to teach civic literacy, report says, http://www.chronicle.com

Martin, J.L. and Neal, A.D. (2002). Restoring America's legacy: The challenge of historical legacy in the 21st century, http://goacta.org/reports.html

Sack, R. (2001). "Albrecht/Sack Study". *Proceedings of the 27th annual seminar on accounting education conference.* Austin, Texas.

Wallace, W.M. (1991). *Accounting Research Methods: Do the facts Speak for themselves?,* Irwin, Boston.

- (11/25/2002) About GAP, **http://whistleblower.org/getcat**

- (11/25/2002) Citizens for Public Accountability: Our mission statement, **http://www.efn.org/~cpaeug/mission.html**

- (11/25/2002) Citizens' Circle for Accountability: Citizen audit, **http://www.accountabilitycircle.org/citizenaudit.html**

- (11/25/2002) American Council of Trustees and Alumni: Our mission, **http://goacta.org.mission.html**

AUTHORS

Ramon Fernandez is Assistant Professor of Accounting at the University of St. Thomas in Houston, Texas. His research interest is in taxes. He can be reached at ramonf@stthom.edu.

Cheryl Prachyl is Assistant Professor of Accounting at the University of Texas- Arlington. Her research interest is in teaching and learning issues. She can be reached at cprachyl@uta.edu.

Carol Sullivan is Assistant Professor of Accounting at the Central Washington University- Des Moines, WA. Her research interest is in governmental accounting. She can be reached at carol.sullivan@cwu.edu.

DO YOU SEE WHAT I SEE? A LOOK AT AACSB ACCREDITATION FROM THE STUDENT'S PERSPECTIVE

Dennis Bristow, St. Cloud State University, MN
Kenneth Schneider, St. Cloud State University, MN
Michael Pesch, St. Cloud State University, MN
Robert Calhoun, St. Cloud State University, MN

ABSTRACT

The Marketing Lens Model served as the foundation for the empirical assessment of student perceptions of AACSB accreditation. The survey research method was used to investigate two fundamental research questions: 1) relative to other elements of the educational experience, how important is AACSB accreditation in the students' decision to attend a specific school? and 2) to what degree do students believe that graduating with a degree from an AACSB accredited school of business will provide them with enhanced career opportunities? The results showed that students considered AACSB accreditation to be an important decision criterion and that the accreditation was important to potential employers and in providing a competitive advantage. Avenues for future research are presented.

INTRODUCTION

"The universe is wider than our views of it."
-- *Henry David Thoreau*

"Every man takes the limits of his field of vision for the limits of the world." *Arthur Schopenhauer*

The words of writer Henry David Thoreau and the German philosopher Schopenhauer provide the foundation for the purpose of this study. To wit, people tend to view the elements of the world in which they live within the constraints of their own, idiosyncratic perspectives. To illustrate this concept, consider two first-year

college students enrolled at the same mid-western state university located in a city of 200,000 people. The first student, who was born and raised in a small town of 2500 people in rural America, could be expected to view the university and the city very differently than would the second student who was raised in Shanghai, China with a population of approximately 11 million residents (mongabay.com 2004). As is discussed in more detail below, two such distinctly different environments would likely result in significantly different experiences and expectations for each of the students and their subsequent perceptions of the shared educational environment.

In the field of higher education, the importance of acknowledging the different perspectives of the various stakeholder groups is growing. As colleges and universities compete for the best and brightest students from around the world, increasing numbers of university administrators are adopting and applying the marketing concept and the marketing lens model (Rogers, Finley and Kline 2001; Shank, Winchell and Myers 2001; Bristow and Schneider 2002; Bristow and Gulati 2002, Bristow, Gulati, Amyx and Slack 2004).

The marketing concept is in essence a business philosophy suggesting that an organization seeking to maximize its chances of success must recognize and address the needs of both the organization itself and the stakeholder groups it serves (Drucker 1954; Burch 1957; Webster 1988). The successful application of the marketing concept in an educational setting is complicated by at least two important factors: 1) the many types of institutes of higher learning, and 2) the diversity of stakeholder needs. Both factors are of fundamental interest in this study and each is discussed more fully below.

The differences between the more than 4000 colleges and universities from which students might choose (U.S. Department of Education 2006) are virtually limitless. For example, students might desire to attend a doctoral granting, land grand university with a student population of 60,000 students. Other students might prefer to attend a small liberal arts college with 2000 students. Students might choose between private and public universities or between schools accredited by the Association to Advance Collegiate Schools of Business and schools with only regional accreditations. Other students might elect to enroll in an on-line university. While all such

institutions would share an underlying goal of meeting the educational needs of the students they serve, each school would also have uniquely different educational goals.

The many and diverse colleges and universities also serve a tremendously diverse group of stakeholders. One of the primary stakeholder groups of colleges and universities is, of course, the students they serve. And that stakeholder group, which is of primary interest in this study, is growing in size and in diversity. In 2006, U.S. Department of Education statistics showed that slightly more than 30 percent of all students enrolled in degree-granting institutions held minority status. Between the years of 1994 and 2004, the number of female college/university students grew by 25 percent (compared to 16 percent for males) and overall, more than fifty percent of college students are female. The National Center for Educational Statistics (NCES 2006) estimates that from 2004 – 2014, the number of non-traditional (25 years of age or older) college students will increase by 15 percent. Such diversity in the make-up of the college student population strongly suggests growing diversity in the needs, expectations, experiences, and perceptions of those students.

The adoption of the marketing concept and the recognition that different stakeholders are likely to hold distinct views of the university experience leads to an intriguing question: How do university administrators assess those diverse perceptions? The work of Egon Brunswik (1952) and the subsequent research of Bristow, Mowen, and Krieger (1994), Licatta, Mowen and Chakraborty (1995), Bristow (1998), Bristow and Amyx (1998), Amyx and Bristow (1999) and others provides the theoretical foundation for the answer to that question.

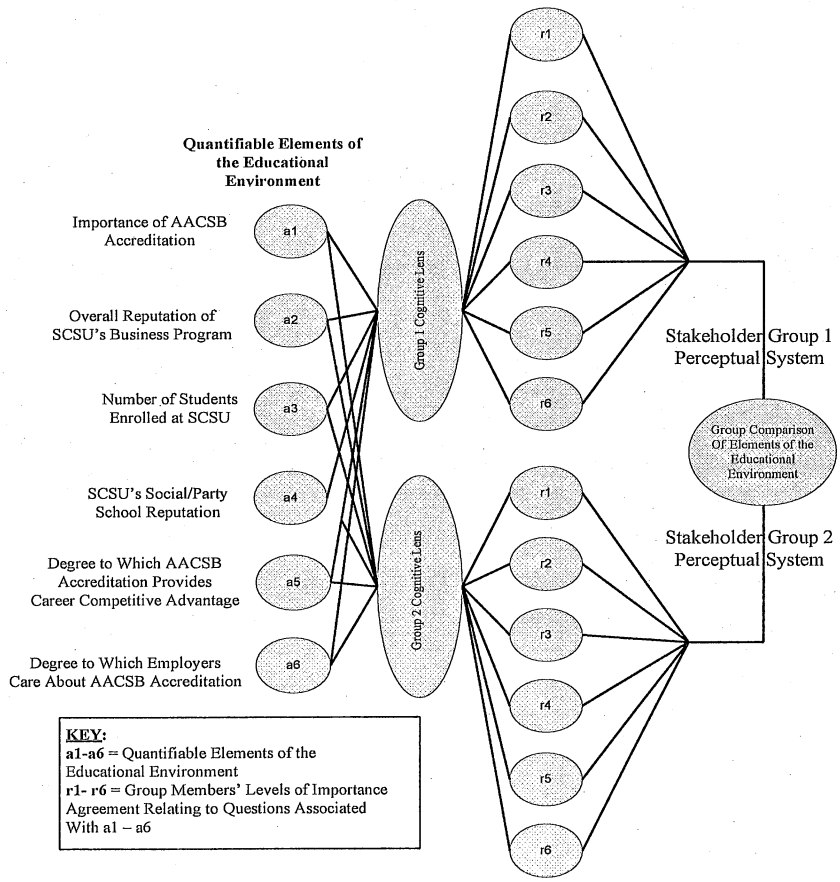
THE MARKETING LENS MODEL

Brunswik's lens theory (1952) proposes that two individuals sharing the same environment will perceive the various stimuli of that environment differently. The lens theory suggests that those differing perspectives will result from each person's idiosyncratic perceptual lens which is shaped by one's life experiences, expectations, knowledge, cultural values, and societal norms. Bristow and his colleagues (1994, 1998) developed the Marketing Lens Model (MLM)

as a tool by which researchers could empirically assess the perceptual distinctions held by different people or groups.

As seen in Figure 1, the MLM consists of three components. The first component (the left side) of the model is comprised of quantifiable elements of the shared environment. That environment may include elements of the social, political, or cultural environment or the features

Figure 1
The Marketing Lens Model



of a product or service. In an educational setting, this left side of the MLM might include classrooms, computer labs, AACSB accreditation, professors, the academic reputation of the school, and so on. The second (central) component of the MLM is made up of the cognitive lenses of the individuals or groups of interest. Those lenses are shaped or colored by the attitudes, opinions, beliefs, experiences and so forth of each of the groups or individuals being studied and determine how, for example, various elements of the educational environment are viewed by each group. The third (right) side of the model consists of the measured perceptions and evaluations or ratings of the environmental components shared by the groups of interest. The right side of the MLM can be readily assessed via the survey research method.

In the current study, the MLM was used to empirically assess the environmental perceptions of a single stakeholder group – students enrolled in business courses at an AACSB accredited school of business. More specifically, the model was used to investigate -- from the students' perspective – two basic research questions: 1) relative to other elements of the educational experience, how important is AACSB accreditation in the students' decision to attend a specific school? and 2) to what degree do students believe that graduating with a degree from an AACSB accredited school of business will provide them with enhanced career opportunities?

THE STUDY

The survey research format was used in the study and all data were collected from students enrolled in junior (third year) and senior (fourth year) level business courses. The first five survey items (please see Table 1) were written into a 5-point Likert type scale with endpoints of (1) not at all important and (5) extremely important. Three additional assessment items (see Table 2) were written into a similar Likert type instrument with endpoints of (1) strongly disagree and (5) strongly agree. These statements and several demographic questions were incorporated into a paper-and-pencil questionnaire which was distributed by the primary researchers during regularly scheduled class room sessions.

Students were informed that their participation in the study was completely voluntary and that their responses would be reported in aggregate form only and that their individual anonymity would be preserved. The data were collected across a two week period. After completing the questionnaire, student participants were engaged in a question and answer session and were thoroughly debriefed.

Participants

Participants were volunteer university students enrolled in a junior/senior business courses St. Cloud State University, a state university located in the Midwestern United States. A total of 241 students participated in the study. Slightly more than 94 percent of the participants were between 18 and 27 years old. Approximately 58 percent of the student participants were female and about 95 percent of the participants were business majors. In total, questionnaires were completed by 241 students enrolled in the various sections of the business courses noted above. Thirteen of these were subsequently deleted from the analysis because they had been completed by students other than business majors. The final sample size upon which this study rests was, then, 241 – 13 = 228 business majors.

FINDINGS AND DISCUSSION

Accreditation and the Decision to Attend St. Cloud State University (SCSU)

Students first rated the importance of five factors in their decision to attend SCSU. Imbedded in this list of five was an item to assess the importance of the institution's AACSB accreditation. Specifically, students were asked to "indicate how important each of the following was in your original decision to enroll at SCSU by circling a number from 1 = not at all important to 5 = extremely important."

Pertinent results are shown in Table 1, with the five items presented not in the order they appeared on the questionnaire but rather in descending order of overall importance as measured by mean responses to the five point scales. AACSB accreditation was rated as the most important of these five factors in students' decision to attend SCSU, surpassing even "the overall reputation of SCSU's business

program." This does not mean that AACSB accreditation is the single most important factor in students' choice to attend SCSU because the importance of numerous other factors, including location and cost (or value), were not assessed. However, by any reasonable interpretation of these data, national AACSB accreditation is important; nearly one-half the students surveyed indicated it was extremely important.

Table 1: Importance of Selected Factors in Original Decision to Enroll at SCSU

Rank by Mean	Item	Not at All Important				Extremely Important	Mean	StdDev
		1	2	3	4	5		
1	The fact that SCSU's business program is nationally (AACSB) accredited:	5.3%	5.3%	13.2%	29.1%	47.1%	4.07	1.14
2	The overall reputation of SCSU's business program:	3.5%	5.3%	15.4%	44.5%	31.3%	3.95	1.00
3	SCSU's size (number of students):	14.5%	17.6%	32.6%	29.5%	5.7%	2.94	1.13
4	SCSU's social (ie., party school) reputation:	30.8%	22.5%	26.0%	16.7%	4.0%	2.41	1.20
5	The opportunity to study abroad while enrolled at SCSU:	42.3%	20.7%	16.3%	12.8%	7.9%	2.23	1.33

It is also interesting that about seven out of every ten students thought both AACSB accreditation and the school's overall reputation were important (ie., responded with either a "4" or a "5" on the five point scale). The difference is that more of those students selected "5" in response to the importance of AACSB accreditation while more selected "4" in response to the importance of the school's overall reputation.

The remaining three items were included to provide a benchmark contrast. Size of the school (about 16,000 students) was considered to be only somewhat important, yielding a mean response

(2.94) nearly equal to the scale midpoint. The school's social reputation (the school where the data were collected does have a reputation in the local media as a "party" school) was rated as being less important still, with a mean score of 2.41.

The final factor, having an opportunity to study abroad, was considered even less important than social reputation. The low scores here were disappointing but perhaps reflective of the role that study abroad opportunity plays in students' school choice. About one in ten students considered that opportunity to be extremely important. These are likely students who are contemplating a study abroad experience as part of their collegiate experience. For the rest of the student body, it is simply not a strong consideration in choosing a school.

ACCREDITATION AND CAREER PREPARATION

Students in the study were next asked to look ahead to the role that AACSB accreditation might play in their career preparation by responding to three different items, each time using a traditional five point Likert scale from 1 = strongly disagree to 5 = strongly agree. Much like their positive attitudes toward business accreditation in their decision to enroll, students were enthusiastic in contemplating how AACSB might help their career.

Table 2: Current Perceptions of AACSB Accreditation and Career Preparation

Item Nmbr	Item	Strongly Disagree 1	2	3	4	Strongly Agree 5	Mean	StdDev
1	SCSU's national (AACSB) accreditation will help me compete with other job applicants after I graduate:	1.8%	4.0%	24.1%	37.5%	32.6%	3.95	0.94
2	SCSU's business program is preparing me well for my career:	1.8%	4.4%	21.2%	53.1%	19.5%	3.84	0.85
3	Most employers probably don't care one way of the other that a business program is nationally (AACSB) accredited:	20.0%	41.3%	25.8%	9.8%	3.1%	2.35	1.01

The three items are shown in Table 2, this time shown in the order in which they appeared on the questionnaire. Students were in strong agreement that AACSB will help them compete with other job applicants. About one-third of respondents strongly agreed that AACSB accreditation will give them a competitive edge over other applicants, and another one-third agreed it would do so. Students are also in general agreement that accreditation impacts the quality of instruction. Almost three-fourths of those questioned agreed or strongly agreed that the school's business program is preparing them well to begin their career.

These results are supported by the level of disagreement with the statement that employers don't care much about a program's accreditation. One in five students strongly disagreed with this negatively phrased statement, and another two in five disagreed with it.

Accreditation and Minnesota Business Schools

Finally, the authors thought it would be instructive to determine how well informed students are with respect to AACSB accreditation across the state of Minnesota. Altogether, four Minnesota business schools have achieved AACSB accreditation; two in the University of Minnesota system and two in the MnSCU (re: Minnesota State Colleges and Universities) system. The Minneapolis campus of the University of Minnesota system houses the Carlson School of Management, accredited for 86 years and making it one of the first business schools accredited by the now 90 year old AACSB. St Cloud State University is next in longevity, currently celebrating 30 years of AACSB accreditation. The other two schools have each been accredited for less than ten years, including the Mankato campus of the MnSCU system (9 years) and the Duluth campus of the University of Minnesota system (6 years).

Students were presented with a list of eight higher education institutions located in Minnesota, including the three accredited schools (other than St. Cloud State) and an assortment of five other colleges and universities, none of which are AACSB accredited, and were directed to "based on your understanding, place a check by each of the following Minnesota universities whose business programs are nationally (AACSB) accredited."

The findings, shown in Table 3, underscore an imperfect understanding on the part of the students regarding which Minnesota schools *are* versus *are not* AACSB accredited. Most students correctly indicated that the University of Minnesota – Minneapolis is accredited. On the other hand, fewer than one-half knew that the University of Minnesota – Duluth is accredited, and only one in four knew that Minnesota State University – Mankato is accredited. Both of these schools are, of course, relatively newly accredited by AACSB; evidently, news of accreditation diffuses somewhat slowly beyond one's own campus community.

Table 3: SCSU Students' Understanding of AACSB Accreditation Among Minnesota Schools

Institution	Years Accredited by AACSB	Percent Who Identify School as AACSB Accredited
U of Minnesota System:		
Minneapolis Campus	86 years	82.9%
Duluth Campus	6 years	43.4%
Morris Campus	Not AACSB	7.0%
Minnesota State System:		
Mankato Campus	9 years	25.0%
Winona Campus	Not AACSB	7.5%
Private Schools:		
Univ of St. Thomas	Not AACSB	27.2%
Carleton College	Not AACSB	26.8%
St. John's/St. Ben's Univ	Not AACSB	14.5%

There were also a fair number of false positives, especially among a set of three private, non-profit schools that were included in the listing. The University of St. Thomas is a private urban university in the Minneapolis/St. Paul area with a large metro-based MBA program with a sound academic reputation in that region. It was incorrectly identified as being AACSB accredited by slightly more than one in four students. Carleton College is perhaps Minnesota's most highly acclaimed liberal arts college, consistently ranked among the top schools nationally. For example, Carleton was ranked sixth in the 2007 US News and World Report rankings of liberal arts schools. (www.usnews.com/usnews/edu/college/rankings/rankindex_brief.pho) It was also incorrectly identified as being AACSB accredited by

slightly more than one in four students. Finally, St. John's University and St. Ben's University, coordinated central Minnesota liberal arts colleges located more or less in SCSU's backyard, were incorrectly identified as being AACSB accredited by about one in seven students.

The implication of these findings is clear: students at one accredited university have a reasonably but not crystal clear notion of which other schools *are* versus *are not* accredited. In this case, most St. Cloud State University students correctly identified schools as being or not being AACSB accredited, but many did not. AACSB accreditation brings instant recognition of quality to a business program, but that may not be instantly recognized outside of the school. To be useful as a recruiting tool, a school's accreditation must be promulgated among its target markets. It cannot be assumed that being accredited automatically means potential enrollees – and other stakeholders -- know that.

CONCLUSION AND FUTURE RESEARCH

The marketing concept and the Marketing Lens Model (MLM) served as the nomological net and foundation for the current study. Based upon the tenets of that net, this research served as the initial examination and assessment of the perceptions of one stakeholder group – students enrolled in business courses at a single university – with regard to various elements of the educational environment at that institution. The results showed that students attached high levels of importance to AACSB accreditation in their decision to attend the university and that they believed that AACSB accreditation would provide them with a competitive advantage when they entered the job market. In addition, students considered the national accreditation of the school to be important to potential employers.

While those findings are informative, it must be recognized that the study provided empirical assessment of a single component of the MLM -- the perceptions of one stakeholder group on the right side of the model. In point of fact, the research presented here can be extended in several ways by looking at the elements on the left side of the model from the perspective of several other stakeholder goups. First, it would be instructive to compare student attitudes and opinions across institutions, especially among those who have been

long accredited, those who have received accreditation more recently and, perhaps, even those in AACSB candidacy. Second, it would be useful to know the extent to which students' perception that accreditation is important to prospective employers is, in fact, accurate. Thus, a comparative survey of employers, especially major employers in a school's service area, could be undertaken to determine whether employers share the opinion that business school accreditation is an important, relevant hiring criteria. Finally, the authors would like to suggest studying the link between accreditation and student satisfaction with their educational experience. That is, do students who enroll at a university in part because of its status as an AACSB accredited school in fact differ in how satisfied they are with their educational experience at that school compared with, say, those who enroll for other reasons?

REFERENCES

Bristow, Dennis N., John C. Mowen, and Ruth H. Krieger (1994). "The quality lens model: A marketing tool for improving channel relations," Academy of Marketing Science National Conference Proceedings.

Bristow, Dennis N. and Douglas Amyx (1999). "Consumer primacy on campus: a look at the perceptions of Navajo and Anglo consumers," *Journal of Nonprofit and Public Sector Marketing*, 7 (2), 31-44.

Bristow, Dennis N., Douglas Amyx, Rajesh Gulati, and Jennifer Slack (2004). "Do you see what I see? An empirical look at professional selling from a student perspective." National Conference in Sales Management 2004.

Bristow, Dennis N. and Rajesh Gulati (2002). "The teaching of sales related courses at the university level: an empirical look from the sales manager's perspective." *Journal of Selling and Major Account Management*, 4 (3), Spring, 25-43.

Bristow, Dennis N. and Kenneth Schneider, (2002). "The collegiate student orientation scale (CSOS): application of the marketing

concept to higher education." *Journal of Marketing for Higher Education*, 12 (2), 15-34.

Brunswik, Egon (1952). "The conceptual framework of psychology." *International Encyclopedia of Unified Science*, 1 (10).

Burch, Fred J. (1957). "The marketing philosophy as a way of business life," in *The Marketing Concept, Its Meaning to Management*, Marketing Series no. 99, American Management Association, New York: NY

Drucker, Peter F. (1954). *The Practice of Management*, New York, NY: Harper and Row.

Rogers, G., D. Finley, and T. Kline (2001). "Understanding individual differences in university undergraduates: a learner needs segmentation approach," *Innovative Higher Education*, Annual, 25 (13), pp. 183-196.

Shank, Matthew D., Margaret H. Winchell, and Margaret Myers (2001). "Appreciating the needs of non-typical students: women as a growing market for colleges and universities, *Journal of Marketing for Higher Education*, 11 (1), pp. 63-72.

United States Department of Education, National Center for Educational Statistics (2006). Digest of Education Statistics, 2005 (NCES 2006-030), Table 205.

U.S. News and World Report (2006). America's Best Colleges 2007. www.usnews.com/usnews/edu/college/rankings/rankindex_brief.pho

Webster, Frederick E. Jr., (1988). "The rediscovery of the marketing concept," *Buisness Horizons*, May-June, 29-39.

AUTHORS

Dennis N. Bristow is a Professor of Marketing in the G.R. Herberger College of Business, at St. Cloud State University. He received his B.S. degree in Psychology in 1989, and M.A. in Industrial/Organizational Psychology in 1991. He received his Ph.D. in Business Administration and Marketing from Oklahoma State University in 1995. His work in the areas of consumer behavior, cross-cultural marketing, and personal selling has appeared in Marketing Education Review, Journal Of Marketing Channels, Journal Of Marketing Management, Journal Of Product And Brand Management, Journal Of Education For Business, Journal Of Applied Business Research, Marketing Intelligence And Planning, Journal Of Customer Service In Marketing And Management, Journal Of Nonprofit And Public Sector Marketing, Journal Of Marketing For Higher Education, Journal Of International Consumer Marketing, Pricing Strategy And Practice, Cross Cultural Management, Journal Of Strategic Marketing, Management Research News and elsewhere.

Kenneth C. Schneider is a Distinguished Professor of Marketing and Marketing Research at St. Cloud State University. He received a B.A. degree in Economics in 1970 and M.S. degree in Quantitative Analysis in 1972. He received a Ph.D. in Quantitative Analysis and Marketing from the University of Minnesota in 1975. His articles have appeared in Journal Of Marketing, Journal Of Consumer Research, Decision Sciences, Msu Business Topics, California Management Review, Business Horizons, Journal Of Retailing, Business, Journal Of Business Research, Journal Of The Market Research Society, Journal Of The Academy Of Marketing Science, Logistics And Transportation Review, and elsewhere. He has also co-authored a text, Quantitative Management.

Michael J. Pesch is a Professor of Operations Management in the G. R. Herberger College of Business. He has a Ph.D. in Business Administration and a B.A. in Political Science and History from the University of Minnesota, and an M.S. in Agricultural Economics and an MBA from The Ohio State University. His research interests are in quality management, service operations management, and focused

manufacturing. His publications include articles in Business Horizons, Production and Inventory Management Journal, Production and Operations Management, Journal of the International Academy for Case Studies, and International Journal of Physical Distribution and Materials Management. In 1993, he won the Production and Inventory Management Journal's Romey Everdell "Best Article of the Year" award.

Robert J. Calhoun is a Professor and Chair of the Marketing and Business Law department in the G.R. Herberger College of Business, at St. Cloud State University. He received his B.S. in Marketing in 1967 from St. Cloud University. He received his J.D. in 1970 from the University of Minnesota. His work in the areas of tax, hostile takeovers, bankruptcy, employer defamation and employee privacy have appeared in Journal Of Small Business Management, Midwest Law Review, Akron Business And Economic Review, Mid-American Journal Of Business and elsewhere.

EXPORT MARKETING EDUCATION IN NIGERIA

Anayo D. Nkamnebe, Nnamdi Azikiwe University, Awka-Nigeria

ABSTRACT

This paper sets out to explore the degree of export education in Nigeria with the view to providing guidance for export information acquisition in that country. It examines academic programmes of selected Nigerian universities, and export seminar programmes of Nigerian Export Promotion Council (NEPC). The study found that none of the universities offer any programme on export education. Export education is rather mentioned tangentially in subjects of related disciplines. The programme offered by NEPC is ad hoc; it focuses on the mechanics of exporting. Firm level, institutional, and public policy measures were recommended to address the apparent inadequacy.

INTRODUCTION

Discussions on the strategies for increasing the level of active exporting among countries of Sub-Saharan Africa (SSA) are receiving heightening attention in the literature (for example see: Nkamnebe and Okeke, 2006; Ibeh, 2005; Nkamnebe, 2004). The reason for this state of being could be derived from the full realization that active exporting correlates economic development particularly as world economy is becoming more integrated. Since SSA countries account for world's most wretched nations, they could not afford ignoring their export sector. Nigeria in particular relies excessively on crude petroleum export with its concomitant effect on the economy.

Diversifying Nigeria's monolithic export portfolio as a strategy for sustainable economic development has always been a popular ideal. The process of transcending from the *theoretical possibilities* of vibrant exporting to practical realities of export-oriented economy requires that key determinants of export performance are identified and managed properly. Arguably, export education is one of such determinants (Axinn, 1988).

A plethora of findings on export performance abound in the mainstream literature. These are well documented in the literature and may not warrant further discussion in this paper. However, a review of these findings indicates that export education appears to have been neglected despite the professed imperative of *information acquisitions* and *rich organisational memory* on export performance. The objective of this paper is to analyse export education curriculum in Nigeria so as to provide further useful insight into the state of export education in that country. It is expected that the attainment of this goal would assist in contributing the much-needed strategic insight in the Nigeria's non-oil export development process.

EXPORT MARKETING EDUCATION: A PERSPECTIVAL REVIEW.

When compared with domestic marketing operations, cross-border trade is recognized to be most daunting. This apparent difficulty arises from the complexly interconnected dynamic operating environment. Accordingly, various theorists have posited that information acquisition represents important organisational behaviour that tends to promote organisational performance even in the treacherous and hazardous international markets.

As have been theorised, international marketing operations depends much on organisational and personal incremental learning behaviour. As such, export education constitutes part of such strategic behaviour that provides firms with reliable backbone upon which their internationalisation process rests. This can be done through formal educational search, or through experiential knowledge arising from consistent operations in the market. March (1991) accordingly identified *internal* and *external* sources of such information as critical drivers of such organisational learning process. In distinguishing both modes of export learning process, Samiee and Walters (2002) situates *internal sources* as relying on information acquired through direct experience, experience of others (including education), or organisational memory. On the other hand, *external sources* entail such practices as *demonstration* and *market experiments* (Slater and Narver, 1995).

In this context, reviewed literature posits that export information and hence information acquisition could occur from any of the following:

- Engaging experienced export managers (McConville, 1996).
- Engaging export managers with (export marketing) degrees obtained through formal education; sending own staff for such degree programmes; and direct experience (Samiee and Walters, 2002).
- Third party tutoring as in the case of using export consultants, intermediaries, export promotion agencies, secondary sources, e.g. export directory, export web sites etc. (Wood and Goolsby, 1989; Mactuley, 1993).
- Export mentorship involving active involvement of government agencies (Anyanwu and Nkamnebe, 2003; Leonidou, 1995).

When situated in the context of SSA countries, and indeed Nigeria where Small and Medium Enterprises SMEs predominates, the pattern of export knowledge acquisition becomes strategically significant. SMEs have been found in pervious studies to lack the resourcefulness and readiness to adopt external mode of information acquisition. Inability to wait for a long time for such mode to start yielding required result has been cited in the literature as explanation why external sources are not given due consideration by SMEs (Samiee and Walters, 1990).

Among the limited literature on export education, and the general field of (export) entrepreneurship, the following have been identified as key areas of training relevant in export education:

- Technical, business, and entrepreneurial skills (Nieman, 2001).
- Strategic, functional, and technical skills (Samiee and Walters, 2002).

Nieman (2002) described the three skills (technical, business, and entrepreneurial) thus:

> Business skills training cover all the conventional management training areas in a business. Technical skills training is to address the ability to use knowledge or

> techniques of a particular discipline to attain certain ends. Entrepreneurial training involves the birth and growth of a business enterprise and includes among other entrepreneurial traits creativity and innovation, risk propensity and need for achievement. Business training is formal training that covers all aspects of management.

On the other hand, *functional* and *technical skills* tallies with the mechanics of exporting, and *strategic skills* refer to skills that assist exporters to develop exporting infrastructure and formulating export strategies (Samiee and Walters, 2002).

Evidently, understanding the height and depth of export education has become imperative in understanding the interplay of export performance variables in different export contexts. Such understandings should provide critical input in developing 'appropriate' export programmes, both at firm levels and national. This is particularly the case for low exporting nations, where majority of exporters are classified as SMEs. Context specific factors inhibiting and challenging efficient export education programme has to be considered and provided for. In a related review of (export) entrepreneurship training in South Africa, Nieman (2002) documents the following recommendations:

- The training emphasis in most service providers seems to be more on conventional management training than entrepreneurial training (Ladzani, 1999, p. 70).
- Any training programmme that addresses the daily running of a business should be adapted for the different cultural groups (Mazibuko *et al.*, 1996, p. 12).
- The training needs of those people in the informal business sector (mostly micro enterprises) are very different to those in the more sophisticated ones (Hirschowitz *et al.*, 1991, p. 31).
- The training that is available tends to be concentrated on commerce and services with little on training for market related production (De Waal, 1997, p. 12)
- Small business training must be closely related to the small business environment and not based on the management of large enterprises (Govender, 1991, p. 326).

- Small business educators/trainers need to be sufficiently aware of African cultural issues, particularly in the rural areas where traditional knowledge shared values; attitudes and beliefs exist (Smets, 1996, p. 182).
- For the training of small business enterprises to be effective, it must be kept simple. Small segments of on-going, hands-on type training, that allows trainees to participate and discuss business matters of mutual concern, would seem to provide the best results (De Waal, 1997, p. 16).
- The trainers must ideally have had business experience, be supportive towards the trainees and preferably speak their home language (De Waal 1997, p. 16).
- The proliferation of training institutions and courses which could be relevant to SMME entrepreneurs are often the result of a supply driven approach than based on the needs of the entrepreneurs themselves (Bezuidenhout, 1996, p. 11).

These (findings, conclusions, and recommendations) no doubt approximate and may be applicable to export entrepreneurship education in Nigeria. The commonality of (export) marketing and (export) entrepreneurship is well documented in the literature (Morris and Paul, 1987; Miles and Arnold, 1991).

METHODOLOGY

The major objective of this paper is to examine the content of export marketing education in the Nigeria's export development process. The study adopted the method of examining academic programmes of selected universities and export seminar programmes of Nigerian Export Promotion Council (NEPC) in order to describe the current situation. We concentrated our investigation among universities in the South Eastern Nigeria *(which in all respect is similar to other universities in the country)*. This is supplemented by interviews with officials of NEPC on their export education programmes.

FINDINGS, DISCUSSIONS, AND RECOMMENDATIONS

None of the universities studied offer degree programmes on export education. The closest programme that mentions *export* are the traditional fields of Economics, Business Administration, and International Marketing. The content and objectives of such related disciplines as they are taught in these are summarized in Table 1.

From the table, it is obvious that none of the universities offer any degree course in export marketing. Instead related disciplines of marketing, economics, and business administration offer it as a topic in one of their courses. For example, in marketing, export is taught export as a topic in international marketing; in economics, export is found in the syllabus for international trade; and in business administration, export is discussed tangentially in international business. Although no consensus exists in the literature as to what constitute export education (Samniee and Walters, 2002), a comparism of the scanty syllabi existing in these schools with the 34 subjects utilized by Samiee and Walters in their study portrays that export education in Nigeria is rather skimpy.

Table 1: Content, Objective, and Duration of Export Related Education in Nigeria.

Export Education Mode	**Progra-Mme**	**Content of Programme**
Export Related Degree Progr-amme	4yr-degree progr-amme on Econo-mics, Marketing, Business Administ-ration	Export is only discussed slightly in related subjects as international marketing, international business, and international trade.
Export Promot-ion Agencies	*Ad hoc* export seminars	Mechanics of exporting

Again, among the few subjects where export is taught, the subject is never taught with the depth that could stimulate any

serious export entrepreneurship. Rather the shallowness of these subjects with respect to export education is such that it merely discusses export from procedural and market-entry perspectives, mainly from the point of view of firms at advanced stage of internationalisation. The focus appears to favour multinational firms rather than the targeted SME exporters. This pattern lacks the kind of utility that could stimulate and sustain vibrant exporting among Nigeria's present and potential export entrepreneurs.

This scenario represents the general practice in Nigeria where importation represents a popular form of firm internationalisation. Poor funding of export development (which include export education activities), and absence of export strategy (which also involves export information acquisition) were considered serious barriers to active exporting in the Nigeria's non-oil sector .

Apart from the universities that were supposed to provide full-fledged export education, Nigerian Export Promotion Council (NEPC) also provide *ad hoc* short-term training on the mechanics of exporting. Such short-term ad hoc training is intended to create export awareness and stimulate exporting interest among non-exporters. Accordingly, the focus and content of the training is directed at creating export awareness and to enlighten potential exporters in the mechanics of exporting.

This approach of focussing on the mechanics and procedure of exporting has been shown to limit strategic export performance. In this context, Samiee and Walters (2002) opined: "Indeed, a focus on the mechanics of exporting has been shown to be the strongest disciminant factor between small and medium sized firm. It is then not surprising that the focus of many training program has been on the technical and operational aspects of exporting rather than on assisting exporters in developing an exporting infrastructure and formulating exporting strategies".

Consequent upon the foregoing, the following could be inferred:

- In terms of logistics (Daft and Huber, 1987) of obtaining export education/information; that is, the acquisition and distribution methods of export education (Samiee and Walter, 2002), export education in Nigeria is still very shallow and inconsequential. This in itself is rather absurd and dangerous particularly when portrayed against the reality that export education enhances

organisational competitive advantage. The need for such competitive advantage among Nigerian and SSA firms in stimulating and sustaining economic development is well researched and documented in the literature.

- Further, when viewed from the perspective of cognitive (Daft and Huber, 1987) as a critical component of information system, export education in Nigeria would appear too skimpy for any meaningful impact on export development.
- There is no formal degree programme in export among Nigerian universities. That is if we follow Samiee and Walter's definition of formal export education, which sees it as a degree-based programme that contains strategic, functional, and technical components. This again does not augur well for export development in the country. Again, reflects the unfortunate culture among some SSA countries to still stick to the obvious mundane educational programmes inherited from past colonial governments.
- We attempted to estimate exporters propensity to export education by examining interest of exporting firms in sending their employees to such programmes. Since no formal export education exists in the country, we sought to measure this using attitude of these firms to the *ad hoc* seminars organized by the NEPC. The following conclusions were made:
  (a) Generally, records of attendance to such seminars indicate very low participation, sometimes just a mere 5% attendance rate.
  (b) Interview with officials of NEPC indicated this tendency of potential exporters to participate in such seminars only when they look forward to receiving export incentives without any intension to really engaging into export entrepreneurship. This is consistent with the result of similar study in Brazil where it was found that exporters' initially rush export incentives without any genuine intension to engage into exporting (Christensen, 1987).

Above deficiency in export education in Nigeria has exposed the compelling imperative and challenge to develop pragmatic export

education and export information acquisition mechanism in the country. This task can be approached, not from one dimension alone, but from a multi-party framework. Accordingly, the role of the following parties is imperative: firm-level, institutional, and public policy.

Potential and actual exporters in Nigeria are predominantly small scale in operation, which goes to suggest the criticality of decision maker orientation in actively and consistently searching for and developing appropriate export information and indeed networks. In view of prevailing absence of formal export education in the country, acquisition of marketing and entrepreneurial training becomes a logical path to the specialised knowledge of exporting.

The role of institutions (educational, financing, export promotion agencies, organized private sector (OPS), national bodies, and multilateral) in mounting and sustaining export education programme is critical and fundamental. For such programmes to be most effective, it should incorporate modern Information and Communication Technologies (ICT). Its imperative in building export knowledge competency is well acknowledged (Ibeh, 2002; Oyewole, 2000). However, for firms in SSA with weak resource base, policy co-ordination across SSA countries (Nkamnebe, 2006) and 'inter-firm collaborations and co-operative arrangement' have been advocated (Ibeh, 2003). Again, restructuring existing educational programmes appears a sensible way to creating needed knowledge infrastructure that would benefit not just the exporters but the entire society. Harnessing ICT to reach out for export education offered in far away countries represent important strategic choice for overcoming resource handicap.

The need to re-align Nigeria's export policy to provide adequate catalytic framework for creating knowledge based export drive is recommended. Previous attempt to offer mechanistic export education would appear inadequate to tackle export information acquisition and export development process. Nigeria's policy should recognize this and enforce it.

REFERENCES

Anyanwu, A. and A. D. Nkamnebe (2003). Problems of export entrepreneurship in Sub-Saharan African (SSA): evidence from Nigeria, Conference paper for the 2003 Academy of Marketing Conference to be held May 28-31 at The Wyndham Hotel, Washington D.C.

Axinn, C.N. (1988). Export performance: do managerial perceptions make a difference? *International Marketing Review*, 5, 61-71.

Bezuidenhout, E. (1996). Small business development support - fact or fantasy. paper delivered at the 9th ICSB Southern Africa Conference.

Daft, R.L. and G.P. Huber (1987). How organisations learn: a communication framework. in DiTomaso, N. and S.B. Bacharach, *Research in the Sociology of Organisation*, Greenwich, CT: JAI Press, 1-36.

De Waal, D. (1997). The perceptions of educators and trainers regarding african small business ventures, *Proceedings of the 9th Annual Conference of the Southern Africa Institute for Management Scientists.*

Govender, K.K. (1999). Small business education and training in Transkei. *Development Southern Africa.* 8, 3, 313-28.

Hirschovitz, R., J. Acutt, and A. Koch. (1991). NTB/HRSC investigation into training for the informal sector, Pretoria, Human Sciences Research Council.

Ibeh, K.I.N. (2002). Towards a contingency framework of export entrepreneurship: conceptualisations and empirical evidence. *Small Business Economics*, 15. 1, 49-68.

Ibeh, K.I.N. (2003). On the internal drivers of export performance among Nigerian firms: empirical findings and implications. *Management Decision,* 41, 3, 217-225.

Ibeh, K.N.I. (2005). Firm-level internationalisation in Sub-Saharan Africa: review and implications. Academy of International Business UK Chapter Annual Conference, University of Bath, UK

Ladzani, M.W. (1999). Significance of entrepreneurship training for emerging small business enterprises in the Northern Province (Central Region)", unpublished MBA Dissertation.

Leonidou, L.C. 1995. Export barriers: non-exporters' perception. *International Marketing Review* 12. 1,: 4-25.

MacAuley, A. (1993). The perceived usefulness of export information sources. *European Journal of Marketing*, 27, 10, 52-64.

March, J.G. (1991). Exploration and exploitation in organisational learning" *Organisational Science*, 2, 1, 71-87.

Mazibuko, N.E., E.E. Smith and F.W. Struwig (1996). Training Needs of Micro-Entrepreneurs: A Cross-Cultural Perspective, Paper delivered at the EBM Research Conference.

McConville, D.J. (1996). An accidental exporter turns serious. *World Trade*, 28-9.

Miles, M.P. and D. Arnold (1991). The relationship between marketing orientation and entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 15, 4, 49-65.

Morris, M.H. and G.N. Paul (1987). Innovation in conservation and entrepreneurship firms." *Journal of Business Venturing*, 2, 247-59.

Nieman, G. (2001). Training entrepreneurs and small business enterprises in South Africa: a situational analysis. *Education + Training*, 43, 8/9, 445-450.

Nkamnebe, A.D. (2004). Models of successful export marketing in the Nigeria's non-oil sector" *Nigerian Journal of Marketing*, 5, 1, 95-123.

Nkamnebe, A.D. (2006). Globalised marketing and the question of development in the Sub-Saharan Africa, *Critical Perspectives on International Business*, 2, 4, 321-338.

Nkamnebe, A.D. and Okeke, T.C. (2006). Industrial policies and nigeria's non-oil export entrepreneurship. *4th International Conference on Entrepreneurship & Innovation*, Tshwane University of Technology, Pretoria, South Africa, 353-359

Oyewole, P. (2000). Sub-Saharan Africa and the international marketing of services: past trends, future prospects and challenges. Ogbuehi, A. and G. Ogunmokun (eds.), *The Global Challenge of African Business And Economic Development in the New Millennium*, International Academy of African Business and Development Conference, Atlantic City, New Jersey, USA, April 11-14.

Samiee, S. and P.G.P Walters (2002). Export education: perceptions of sporadic and regular exporting firms. *International Marketing Review*, 19, 1, 80-97.

Slater, S.F. and J.C. Narver (1995). Market orientation and the learning organization. *Journal of Marketing*, 59, 63-74.

Smets, P. (1996). Community-based finance system and their potential for urban self-help in a new south Africa. *Development Southern Africa*, 12, 1, 173-87.

Wood, V.R. and J.R. Goolsby (1987). Foreign market information preferences of established us exporters. *International Marketing Review*, 4, 4, 43-52.

AUTHOR

Anayo D. Nkamnebe is Head of Department of Marketing at Nnamdi Azikiwe University, Awka, Nigeria. He can be reached at Nkamnebe@yahoo.com or +234-803-6675771

MIS FACULTY COMPENSATION: 1999-2005

Milam Aiken, ***University of Mississippi, University, MS***
Kaushik Ghosh, ***University of Mississippi, University, MS***
Mahesh Vanjani, ***Texas Southern University, Houston, TX***

ABSTRACT

How well do Management Information Systems faculty get paid? How much of a difference is there between what private and public universities pay MIS faculty? What region of the country pays MIS faculty the most? In this study, we seek to answer these and similar questions using data from a well known, Web-based data source. To the best of our knowledge, no such detailed study of MIS faculty compensation has been conducted in the recent past.

INTRODUCTION

Many faculty and graduating PhD students in MIS are familiar with the online AIS Salary Offer Survey (Galletta, 2006). This survey gathers and reports academic job applicant data and academic position data. Applicant data includes education, publications, and teaching experience. Position data includes salary, summer support, research support, course load, tenure requirements, and campus type. Individuals on the job market can use this data as a rough guide to form salary expectations. Applicants can also compare themselves to other job candidates in terms of personal qualifications. Academic institutions that seek job applicants can use this data as one means of determining current "competitive" salary offers. Also, the academic institutions can use this data as an additional means of roughly determining what the average job applicant's qualifications might be in a given year.

However, several problems exist with the data. First, it is self-reported. This implies that individuals may exaggerate or lie about their qualifications and salary offers. Also, they might enter data incorrectly. The Web master does detect obvious errors and omits some records. For example, during the 2005-2006 academic year, one entry was not included because the instructor's education was listed as "BS/BA," but the instructor claimed to be teaching in an MBA

program. This particular applicant's publication history and salary data also seemed to indicate misrepresentation or errors. Other entries might not be errors, but are nonetheless suspicious. For example, in 2005, a switched assistant professor had indicated a research budget of $70,0000.

Another problem with the data is that there are very few entries for certain categories, making generalizations tenuous. For example, very few full professors in MIS have reported data on the Web site. Typically, the majority of data are for new assistant professors, the category of interest to graduating PhD students. Even so, the data reflect only a small portion of job hires for any given year.

A third problem is that as new variables are added over the years it becomes difficult to make comparisons, over time, for some categories. For example, a total of 18 variables were included in the 1999-2000 academic year, but the number of variables had grown to 26 for the 2005-2006 academic year.

Although the AIS Salary Offer Survey Web site does provide some analysis of the data (e.g., mean salaries from 2000-2004 for assistant, switched assistant, and associate professor) and summaries of Computer Science faculty salaries have been published (e.g., Maisel & Gaddy, 1997 and Maisel & Gaddy, 1998), we are unaware of any comprehensive report of compensation using this data for the period from 1999 through 2005 for all MIS academic positions. The purpose of this paper is to summarize all forms of compensation for MIS faculty at seven different levels by US (United States) region and by type of institution.

Compensation includes salary as well as summer, research, and moving support. Additionally, compensation data were inflation-adjusted in accordance with the Consumer Price Index with a base-year of 1999. In those cases where no data existed for 1999, inflation-adjusted figures were based upon the first year that compensation was reported. The US regions include the West, the South, the Midwest, and the Northeast. The type of institution is defined as private or public and/or doctoral or non-doctoral degree granting institution.

SALARIES

Table 1 shows mean salaries for the period from 1999 to 2005 for instructors, visiting assistant professors, assistant professors,

switched assistant professors, associate professors without tenure, associate professors with tenure, and full professors. Due to the extremely low sample size in some cases, outliers can affect the results. For example, only a few new instructors listed for a particular year. Also, it is unlikely that on average, across the nation, switched assistant professors were paid less in 2004-2005 than new instructors or visiting assistant professors. Reported salary trends are especially erratic due to the low sample sizes for tenured associate and full professors during these years.

Table 1: MIS Faculty Salaries (1999-2005)

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$59,077	$47,937	$70,000	$51,666	$65,000	$63,962	$85,000
Visitor	$63,500	$75,500	$98,667	$96,000	$90,000	$92,500	NA
Assistant	$76,894	$81,481	$90,368	$97,076	$96,523	$84,833	$91,870
Switched Assistant	$76,071	$83,646	$90,842	$92,272	$88,315	$92,222	$95,833
Associate (not tenured)	$81,026	$85,751	$100,445	$90,437	$117,333	$91,750	$93,500
Associate (tenured)	$90,750	$98,000	$108,250	$84,750	$103,000	$112,000	NA
Full/ Chair	$108,333	$137,650	$114,000	$127,675	$142,500	$101,450	$164,000

The data indicates that for the three academic years from 2001-2002 through 2003-2004, salaries were fairly flat. Assistant professor's salaries increased from 1999-2000 to 2002-2003, but fell for 2003-2004 and 2004-2005 before picking up again in the final academic year reported. This could be due to the large decrease in the number of MIS students in many universities across the nation during this three-year period. This was the time period after the dot.com bubble burst. The resulting lower levels of MIS enrollment likely reduced the demand for additional, entry-level MIS faculty.

On average over this period, there appears to be little salary compression (with the exception of switched assistant professors to assistant professors). Visiting assistant professors were paid

approximately 146% of the average compensation paid to instructors. Assistant professors were paid approximately 103% of the average compensation paid to visiting assistant professors. Switched assistant professors were paid almost equal to assistant professors. Associate professors without tenure were paid approximately 108% of the average compensation paid to switched assistant professors. Associate professors with tenure were paid approximately 106% of the average compensation paid to professors without tenure. Finally, the full professors were paid approximately 124% of the average compensation paid to associate professors with tenure.

Table 2 shows the 1999-inflation-adjusted salaries for each academic level. Table 3 shows the percentage differences between actual and inflation-adjusted salaries. With the exception of instructors, on average, faculty salaries at all levels stayed ahead of inflation during the past seven years. Visiting professors did particularly well, staying ahead of inflation on average by 26%. This is consistent with salaries from other academic fields (Smallwood, 2006).

Table 2: MIS Faculty Salaries (1999-2005) – Adjusted for Inflation (Base Year 1999)

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$59,077	$60,849	$62,621	$63,803	$64,984	$66,757	$69,120
Visitor	$63,500	$65,405	$67,310.00	$68,580.00	$69,850.00	$71,755.00	$74,295.00
Assistant	$76,893	$79,200	$81,507.18	$83,045.06	$84,582.93	$86,889.73	$89,965.48
Switched Assistant	$76,071	$78,353	$80,635.71	$82,157.14	$83,678.57	$85,960.71	$89,003.57
Associate (not tenured)	$81,026	$83,457	$85,887.89	$87,508.42	$89,128.95	$91,559.74	$94,800.79
Associa. (tenured)	$90,750	$93,472	$96,195.00	$98,010.00	$99,825.00	$102,547	$106,177.50
Full/ Chair	$108,333	$111,583	$114,833	$117,000.00	$119,166.67	$122,416	$126,750.00

Table 3: MIS Faculty Salaries (1999-2005) Percentage Difference between Actual and Inflation-Adjusted Salaries

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006	Average
Instructor	0.00%	-21.22%	11.78%	-19.02%	0.02%	-4.19%	22.97%	-1.38%
Visitor	0.00%	15.43%	46.59%	39.98%	28.85%	28.91%	NA	26.63%
Assistant	0.00%	2.88%	10.87%	16.90%	14.12%	-2.37%	2.12%	6.36%
Switched Assistant	0.00%	6.75%	12.66%	12.31%	5.54%	7.28%	7.67%	7.46%
Associate (not tenured)	0.00%	2.75%	16.95%	3.35%	31.64%	0.21%	-1.37%	7.65%
Associate (tenured)	0.00%	4.84%	12.53%	-13.53%	3.18%	9.22%	NA	2.71%
Full/Chair	0.00%	23.36%	-0.73%	9.12%	19.58%	-17.13%	29.39%	9.09%

Table 4 shows the mean salary for all MIS faculty accepting new academic positions in the four US regions covered by the survey. In 1999, the Western region paid most, on average, followed by the South, the Midwest, and finally, the Northeast. However, by 2005, the Southern region paid the most, followed by the Midwest, the West, and the Northeast. Further, actual salaries paid in the Northeast and West lagged their inflation-adjusted numbers.

Table 4: Mean Salary by US Region

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Northeast	$75,166	$85,188	$91,972	$96,519	$91,541	$92,316	$86,571
Adj Infl.	$75,166	$77,421	$79,676	$81,179	$82,683	$84,938	$87,944
Midwest	$75,222	$86,869	$92,827	$96,657	$94,261	$98,382	$98,250
Adj Infl.	$75,222	$77,479	$79,735	$82,744	$85,001	$85,001	$88,010
South	$78,157	$83,544	$94,539	$96,072	$93,018	$83,158	$98,964
Adj Infl.	$78,157	$80,502	$82,846	$84,410	$85,973	$88,317	$91,444

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
West	$79,557	$86,640	$90,875	$85,858	$99,600	$89,062	$91,000
Adj Infl.	$79,557	$81,944	$84,330	$85,922	$87,513	$89,899	$93,082

Tables 5 to 7 show faculty salaries at private institutions, and Tables 8 to 10 show faculty salaries at public institutions. On average during the seven-year period, visiting assistant professors were paid 4% less at private institutions, while assistant professors, switched assistant professors, and full professors were paid essentially the same. However, instructors were paid 30% more at private institutions, while associate professors without tenure were paid 66% more and associate professors with tenure were paid 24% more.

Table 5: Mean Salary - Private Institutions

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$60,833	NA	$70,000	$57,875	NA	$63,962	$85,000
Adj Infl.	$60,833	$62,658	$64,483	$65,700	$66,916	$68,741	$71,175
Visitor	$50,000	$65,000	110,000	$90,000	NA	105,000	NA
Adj Infl.	$50,000	$51,500	$53,000	$54,000	$55,000	$56,500	$58,500
Assistant	$81,156	$81,431	$92,413	100,000	$90,850	$91,192	$91,750
Adj Infl.	$81,156	$83,591	$86,025	$87,648	$89,272	$91,706	$94,953
Switched Assistant	$73,857	$90,416	$87,666	$95,214	$91,166	$81,000	NA
Adj Infl.	$73,857	$76,073	$78,288	$79,766	$81,243	$83,458	$86,413
Associate (not tenured)	$78,500	$75,000	$89,000	$89,166	117,333	$87,500	NA
Adj Infl.	$78,500	$80,855	$83,210	$84,780	$86,350	$86,350	$88,705
Associate (tenured)	$94,000	$97,000	120,000	NA	NA	NA	NA
Adj Infl.	$94,000	$96,820	$99,640	101,520	103,400	106,220	109,980

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Full/Chair	111,250	160,000	100,000	107,500	NA	100,000	NA
Adj Infl.	$111,250	$114,588	$117,925	$120,150	$120,150	$122,375	$130,163

Table 6: Mean Salary – Private, Doctoral-Granting Institutions

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	NA	NA	$70,000	NA	NA	$60,000	NA
Adj Infl.	$65,850	$68,060	$70,000	$71,110	$72,730	$74,660	$77,190
Visitor	NA	NA	$110,000	$90,000	NA	NA	NA
Adj Infl.	$103,480	$106,960	$110,000	$111,740	$114,290	$117,330	$121,300
Assistant	$87,166	$86,642	$72,458	$96,250	$78,250	$96,666	NA
Adj Infl.	$87,166	$89,781	$92,396	$94,139	$95,883	$98,498	$101,984
Switched Assistant	NA	$90,000	NA	$108,333	$91,666	NA	NA
Adj Infl.	$87,070	$90,000	$92,560	$94,020	$96,170	$98,730	$102,070
Associate (not tenured)	NA	NA	$105,000	$93,250	$100,000	NA	$120,000
Adj Infl.	$98,770	$102,090	$105,000	$106,660	$109,090	$112,000	$115,790
Associate (tenured)	NA	NA	$120,000	NA	NA	NA	NA
Adj Infl.	$112,890	$116,680	$120,000	$12,190	$124,680	$128,000	$132,330
Full/Chair	$150,000	NA	$100,000	$92,500	NA	NA	NA
Adj Infl.	$150,000	$154,500	$159,000	$162,000	$165,000	$169,500	$175,500

Table 7: Mean Salary – Private, Non-Doctoral-Granting Institutions

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$60,833	NA	NA	$51,666	NA	$67,925	$85,000
Adj Infl.	$60,833	$62,658	$64,483	$65,700	$66,916	$68,741	$71,175
Visitor	$50,000	$65,000	NA	NA	NA	$105,000	NA
Adj Infl.	$50,000	$51,500	$53,000	$54,000	$55,000	$56,500	$58,500
Assistant	$73,428	$78,571	$95,600	$101,875	$93,500	$91,937	NA
Adj Infl.	$73,428	$75,631	$77,834	$79,302	$80,771	$82,974	$82,974
Switched Assistant	$73,857	$91,250	$93,375	$85,375	NA	NA	NA
Adj Infl.	$73,857	$76,073	$78,288	$79,766	$81,243	$83,458	$86,413
Associate (not tenured)	$78,500	$75,000	$72,500	$81,000	$126,000	NA	$90,000
Adj Infl.	$78,500	$80,855	$83,210	$84,780	$86,350	$88,705	$91,845
Associate (tenured)	$94,000	$97,000	NA	$62,000	$103,000	NA	NA
Adj Infl.	$94,000	$96,820	$99,640	$101,520	$103,400	$106,220	$109,980
Full/Chair	$75,000	$160,000	NA	$122,500	$140,000	NA	NA
Adj Infl.	$75,000	$77,250	$79,500	$81,000	$82,500	$82,500	$84,750

Table 8: Mean Salary – Public Institutions

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$53,808	$57,500	NA	$39,250	$60,666	NA	NA
Adj Infl.	$53,808	$55,422	$57,036	$58,113	$59,189	$60,803	$62,955
Visitor	$77,000	$86,000	$93,000	$102,000	NA	$80,000	NA
Adj Infl.	$77,000	$79,310	$81,620	$83,160	$84,700	$87,010	$90,090
Assistant	$75,041	$81,488	$87,519	$97,622	$95,870	$82,966	$94,157
Adj Infl.	$75,041	$77,292	750411.06	$81,044	$82,545	$84,796	$87,798
Switched Assistant	$76,326	$81,529	$91,437	$93,821	$85,541	$101,916	$95,833
Adj Infl.	$76,326	$78,616	$80,906	$82,432	$83,959	$86,248	$89,301
Associate (not tenured)	$81,071	$87,286	$102,846	$91,200	$10,300	$96,000	$93,500
Adj Infl.	$81,071	$83,503	$85,935	$87,557	$89,178	$91,610	$94,853
Associate (tenured)	$76,326	$81,529	$91,437	$93,821	$85,541	$101,916	$95,833
Adj Infl.	$76,326	$78,616	$80,906	$82,432	$83,959	$86,248	$89,301
Full/Chair	$100,000	$126,916	$118,666	$126,666	NA	$101,450	$164,000
Adj Infl.	$100,000	$103,000	$106,000	$108,000	$110,000	$113,000	$117,000

Table 9: Mean Salary – Public, Doctoral-Granting Institutions

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	NA	NA	NA	NA	NA	NA	NA
Adj Infl.	NA	NA	NA	NA	NA	NA	NA
Visitor	$85,000	$90,000	$90,000	$102,000	NA	$80,000	NA
Adj Infl.	$85,000	$87,550	$90,100	$91,800	$93,500	$96,050	$99,450
Assistant	$79,306	$86,283	$90,130	$98,224	$105,714	NA	$97,166
Adj Infl.	$79,306	$81,685	$84,064	$85,650	$87,237	$89,616	$92,788
Switched Assistant	$81,346	$86,666	$95,700	$93,777	$85,625	$96,750	$105,500
Adj Infl.	$81,346	$83,786	$86,227	$87,854	$89,481	$91,921	$95,175
Associate (not tenured)	$87,285	$110,000	$107,954	$92,000	$100,000	NA	$120,000
Adj Infl.	$87,285	$89,904	$92,522	$94,268	$96,014	$98,632	$102,123
Associate (tenured)	$89,666	$95,000	$108,250	$111,000	NA	$160,000	NA
Adj Infl.	$89,666	$92,356	$95,046	$96,839	$98,633	$101,323	$104,909
Full/Chair	$100,000	$135,500	$118,666	$117,850	NA	NA	$164,000
Adj Infl.	$100,000	$103,000	$106,000	$108,000	$110,000	$113,000	$117,000

Table 10: Public, Non-Doctoral-Granting Institutions

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$53,808	$57,500	NA	$39,250	$65,000	NA	NA
Adj Infl.	$53,808	$55,422	$57,036	$58,113	$59,189	$60,803	$62,955
Visitor	$69,000	$82,000	$96,000	NA	NA	NA	NA
Adj Infl.	$69,000	$71,070	$73,140	$74,520	$75,900	$77,970	$80,730
Assistant	$68,267	$74,518	$82,804	$88,125	$85,727	$83,937	$88,611
Adj Infl.	$68,267	$70,315	$72,363	$73,728	$75,094	$77,142	$79,872
Switched Assistant	$72,750	$77,558	$85,038	$86,583	$90,500	$88,416	$91,000
Adj Infl.	$72,750	$74,933	$77,115	$78,570	$80,025	$82,208	$85,118
Associate (not tenured)	$77,000	$78,201	$84,000	$95,000	$126,000	NA	$90,000
Adj Infl.	$77,000	$79,310	$81,620	$83,160	$84,700	$87,010	$90,090
Associate (tenured)	NA	$92,000	NA	$84,000	$103,000	NA	NA
Adj Infl.	$89,010	$92,000	$94,620	$96,110	$98,030	$100,920	$104,340
Full/Chair	NA	$84,000	NA	$130,000	$137,500	NA	NA
Adj Infl.	$81,270	$84,000	$86,390	$87,760	$89,760	$92,150	$95,270

Within the private institution category, there was only a 3% difference in assistant professor salaries between doctoral-granting (research) schools and non-doctoral-granting (teaching) schools. Surprisingly, the teaching schools paid better, although these results are suspect due to the small sample sizes. Within the public institution category there was a 2% difference in assistant professor salaries, a 9% difference in switched assistant professor salaries, and a 12% difference in non-tenured associate professor salaries. Within the public institution category, research schools paid more. Further

comparisons between teaching and research schools were not made due to the scarcity of data.

OTHER MIS FACULTY COMPENSATION

Faculty compensation consists primarily of base contract pay for nine months, but can also include extra contract pay for working the entire year (e.g., acting in some administrative duty) and extra pay for special services such as teaching classes during the summer or intersession. Although professors can receive outside earnings, less than half of the faculty from all fields perform consulting or free-lance work, and fewer than one-tenth spend more than four hours a week on such activities (Sax, et al., 1996).

Table 11 shows the summer support that MIS faculty received between 1999 and 2006. Unadjusted for inflation, on average, during this period, instructors received $3,100, visiting assistant professors received $10,278, assistant professors received $12,465, switched assistant professors received $10,310, non-tenured associate professors received $9,435, tenured associate professors received $13,778, and full professors received $19,046. There does not appear to be a clear linear trend with rank, but this may be due to small sample sizes and outliers. However, summer support offered to tenured associate and full professors was higher than that offered to other MIS faculty.

Table 11: Mean Summer Support

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$1,200	$5,000	NA	NA	NA	NA	NA
Adj Infl.	$1,200	$1,236	$1,272	$1,296	$1,320	$1,356	$1,404
Visitor	$7,500	$2,000	NA	$21,333	NA	NA	NA
Adj Infl.	$7,500	$7,725	$7,950	$8,100	$8,250	$8,475	$8,775
Assistant	$14,517	$8,030	$20,998	$17,139	$13,825	$5,090	$7,655
Adj Infl.	NA	$14,953	$15,388	$15,678	$15,969	$16,404	$16,985

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Switched Assistant	$8,581	$5,182	$13,622	$14,407	$6,712	$8,581	$15,083
Adj Infl.	$8,581	$8,838	$9,096	$9,267	$9,439	$9,697	$10,040
Associate (not tenured)	$9,980	$9,152	$16,788	$4,125	$5,000	$9,500	$11,500
Adj Infl.	$9,980	$10,279	$10,579	$10,778	$10,978	$11,277	$11,677
Associate (tenured)	$21,000	$10,009	$14,880	$8,000	NA	$15,000	NA
Adj Infl.	$21,000	$21,630	$22,260	$22,680	$23,100	$23,730	$24,570
Full/Chair	$22,740	$10,250	$16,333	$16,500	$20,000	$6,500	$41,000
Adj Infl.	$22,740	$23,422	$24,104	$24,559	$25,014	$25,696	$26,606

Table 12 shows moving support with averages by rank over the seven years reported. Unadjusted for inflation, on average, during this period, instructors received $645, visiting assistant professors received $3,095, assistant professors received $3,838, switched assistant professors received $5,060, non-tenured associate professors received $4,092, tenured associate professors received $5,396, and full professors received $7,150. Again, tenured associate and full professors received the highest amounts. Finally, Table 13 shows the research budget by position. Unadjusted for inflation, on average, during this period, instructors received $1,563, visiting assistant professors received $2,899, assistant professors received $2,060, switched assistant professors received $3,682, non-tenured associate professors received $3,013, tenured associate professors received $2,363, and full professors received $11,530. Although the budget trend is roughly linear with rank, some assistant professors might be offered a larger research budget as a hiring bonus.

Table 12: Mean Moving Support

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$534	NA	$568	$833	NA	NA	NA
Adj Infl.	$534	$550	$566	$577	$587	$603	$625
Visitor	$1,881	NA	$2,000	$3,500	$5,000	NA	NA
Adj Infl.	$1,881	$1,937	$1,994	$2,031	$2,069	$2,126	$2,201
Assistant	$3,415	$3,506	$4,436	$5,288	$3,500	$3,216	$3,503
Adj Infl.	$3,415	$3,517	$3,620	$3,688	$3,757	$3,859	$3,996
Switched Assistant	$3,859	$3,232	$3,919	$15,093	$3,189	$4,272	$1,857
Adj Infl.	$3,859	$3,975	$4,091	$4,168	$4,245	$4,361	$4,515
Associate (not tenured)	$3,108	$3,375	$5,842	$4,125	$4,333	$4,864	$3,000
Adj Infl.	$3,108	$3,201	$3,294	$3,357	$3,419	$3,512	$3,636
Associate (tenured)	$3,625	$5,833	$2,916	$8,000	$6,000	$6,000	NA
Adj Infl.	$3,625	$3,734	$3,843	$3,915	$3,988	$4,096	$4,241
Full/Chair	$3,333	$3,900	$7,500	$9,166	$10,000	NA	$9,000
Adj Infl.	$3,333	$3,433	$3,533	$3,600	$3,666	$3,766	$3,900

Table 13: Mean Research Budgets

Year	1999 -2000	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006
Instructor	$1,200	$1,322	NA	$2,166	NA	NA	NA
Adj Infl.	$1,200	$1,236	$1,272	$1,296	$1,320	$1,356	$1,404
Visitor	$850	$962	$4,533	$5,250	NA	NA	NA
Adj Infl.	NA	$876	$901	$918	$935	$961	$995
Assistant	$1,639	$1,780	$2,443	$3,475	$2,345	$1,055	$1,681
Adj Infl.	$1,639	$1,688	$1,737	$1,770	$1,803	$1,852	$1,918
Switched Assistant	$1,485	$1,653	$1,720	$3,327	$1,792	$3,181	$12,614
Adj Infl.	$1,485	$1,530	$1,574	$1,604	$1,634	$1,678	$1,737
Associate (not tenured)	$1,960	$2,375	$3,321	$6,125	$1,333	$1,475	$4,500
Adj Infl.	$1,960	$2,019	$2,078	$2,117	$2,156	$2,215	$2,293
Associate (tenured)	$3,000	$750	$1,500	NA	NA	$4,200	NA
Adj Infl.	$3,000	$3,090	$3,180	$3,240	$3,300	$3,390	$3,510
Full/Chair	$3,833	$7,000	$15,375	$35,000	$2,500	$4,000	$13,000
Adj Infl.	$3,833	$3,948	$4,063	$4,140	$4,216	$4,331	$4,485

SUMMARY

The level of compensation is important to faculty, but it can sometimes be secondary to other factors such as public prestige, recognition by peers, and working conditions (McKeachie, 1979). For example, tenured faculty view security and autonomy as valued components of their jobs, offsetting any deficits that might occur in their compensation (Tierney, 1997). Nevertheless, analyses of AIS Salary Offer Survey data from 1999 to 2005 show that MIS faculty compensation has stayed ahead of inflation with relatively little

salary compression. In addition, results show that by 2005, the Southern region of the United States was paying the highest salaries. While faculty at some academic levels received essentially the same salary at private and public institutions, instructors and associate professors received considerably more at private schools. Relatively little difference in salary could be detected between teaching and research schools. Additional compensation was roughly linear with academic rank, as mean summer support ranged from $3,100 for instructors to $19,046 for full professors, mean research support ranged from $1,563 for instructors to $11,530 for full professors, and, mean moving support ranged from $645 for instructors to $7,150 for full professors.

REFERENCES

Galletta, D. (2006). *AIS Salary Offer Survey*, http://www.pitt.edu/~galletta/salsurv.html (Downloaded on June 10, 2006)

Maisel, H. and Gaddy, C. (1997). Employment and salaries of recent doctorates in computer science. *Communications of the ACM*, 40(9), 90-93.

Maisel, H. and Gaddy, C. (1998). Employment and salaries of recent CS doctorates. *Communications of the ACM*, 41(11), 99-101.

McKeachie, W. (1979). Perspectives from psychology: Financial incentives are ineffective for faculty. In D. R. Lewis and W. E. Becker (Eds.), *Academic Rewards in Higher Education* (pp. 3-20). Cambridge, MA: Ballinger.

Sax, L., Astin, A., Arredondo, M., and Korn, W. (1996). *The American college teacher: National norms for the 1995-96 HERI Faculty Survey.* Los Angeles: Higher Education Research Institute, UCLA.

Smallwood, S. (2006). Inflation beats faculty salaries again. *Chronicle of Higher Education*, April 28.

Tierney, W. (1997). Tenure and community in academe. *Educational Researcher*, 26(8), 17-23.

AUTHORS

Milam Aiken is a Professor of Management Information Systems and Chair of the MIS & POM Department at the University of Mississippi. He has published over 200 journal and conference papers on group behavior and electronic networks.

Kaushik Ghosh is a Ph.D. candidate at the University of Mississippi.

Mahesh Vanjani is an Associate Professor of Management Information Systems at Texas Southern University's Jesse H. Jones School of Business. He has published numerous articles based on his research. His research interests include group decision support systems, group behavior, electronic language translation, e-commerce, e-government, and Internet use.

RISK AND RETURN: LESSONS FROM EXTREME PORTFOLIOS

Richard J. Bauer, Jr., St. Mary's University, San Antonio, TX
Dam Cho, Chonnam National University, Korea
Julie R. Dahlquist, The University of Texas at San Antonio, TX

ABSTRACT

Assume that you picked the single best stock out of the S&P 500 to hold every month. Expanding this idea, we examine the results from picking the single best stock each month, 2 best stocks, 3 best stocks, etc., as well as the opposite portfolios of the single worst stock, 2 worst, 3 worst, etc. Examining the results of these extreme portfolios yields important insights into risk, return, and diversification. In this paper we discuss how results from these extreme portfolios can be used to augment traditional pedagogical materials. We list 10 conclusions that we drew from our analysis of these extreme portfolios and discuss how the points might be used in classroom discussions and which points are probably the most important to cover. We also include some suggested discussion questions and a possible student project.

INTRODUCTION

Extreme is in these days. We have extreme sports like the X-games, extreme body piercing, extreme deodorants, extreme shaving cream, extreme vacations, journals devoted to extreme culture, and more. In this paper, we show how finance professors can tap into this cultural preoccupation with extremes to teach some important lessons about investing.

Pollyanna was the eternal optimist, while Murphy (of Murphy's Law fame) was the eternal pessimist. The weak form of Murphy's Law is: if something can go wrong, it will. The strong form is: even if nothing can go wrong, something will. Pollyanna, as played by Hayley Mills in the 1960 Disney version of the Eleanor Porter novel, inspired many of the townspeople with her cheerful demeanor, while irritating others. Pollyanna imagined the best case scenario, while Murphy prepared for the worst case scenario. While Pollyanna and Murphy might not be good fits in today's culture, they clearly had extreme viewpoints.

How might Pollyanna and Murphy view the problem of portfolio selection? It seems clear that Pollyanna would focus on the best case scenario, or at least better cases. If asked, "Can you pick the three stocks that will perform best in the next month?" she might have responded, "Why ever not?". Murphy, on the other hand, ould be worried about the inevitable disaster just around the corner. Surely he would pick the worst stocks. If given 500 stocks to choose from, he would undoubtedly choose the very worst performer of the entire lot. If asked to choose two, he would certainly pick the two worst performers. If asked to pick three, he would pick the three worst, and so it would go on.

Researchers have examined various issues related to what are called extreme performers; these are stocks with either very high returns or very low returns over a given time period. Becker and Ochman (2003), for example, developed a model for predicting extreme performers in the European equity market. They developed a two-stage multivariate logistic model for identifying extreme performers and then distinguishing between high and low performers. Their paper was an extension of the model reported by Glickman, Dirienzo, and Ochman (2001), which focused on US equity markets. Others, such as Reinganum (1988), have also tried to identify future extreme performers by examining the link between various firm variables, which could be either fundamental or technical in nature, and subsequent performance. The study of extreme performers is also strongly linked to momentum based strategies, which are based on past return performance. When investors observe or experience extreme returns, it affects their behavior. Therefore, some of the research in behavioral finance is related to extreme performers. Becker and Ochman provide a good summary of the literature related to extreme performers.

Our study focuses on extreme performers from a different perspective than prior studies. We examine how investors who could always pick the 1 best performer, 2 best performers, 3 best performers, etc. might have done with corresponding 1 stock, 2 stock, 3 stock, etc. portfolios. We also examine the flip side looking at the worst performers. We do this to see if there are any lessons to be learned from these extreme portfolios.

RESULTS

Using the Compustat database, we computed monthly returns on stocks included in the S&P 500 index for the period from January 1999-December 2005. During this period, only 342 stocks were components of the index over the entire time period; The average length of time for a stock being in the index was 61 months. Therefore, for each of the 84 months in our sample we considered the 500 stocks that were in the S&P500 index during that particular month.

Let's start with the good news – the Pollyanna portfolios. We sorted the returns from highest to lowest for each of the 84 months. Then we considered a 1-stock portfolio composed of the single stock with the highest return in each month. Note that each month the portfolio is always invested in the best possible stock out of the 500. Next, we considered an equally weighted 2-stock portfolio composed of the 2 stocks with the two highest returns in each month. We continued in this same manner with portfolios from 3 stocks to 500 stocks. We call these the Pollyanna portfolios. We computed the average monthly return and standard deviation of the monthly returns for each portfolio. The average monthly return and standard deviation for various portfolio sizes of the Pollyanna portfolios is shown in Table 1. Over the entire 84 month period, no stock repeated as the highest performer in two consecutive months. However, one stock was the highest performer three times, and twelve stocks were the highest performer twice. Hence, 70 different stocks were the highest performers over this period.

Next let's look at the bad news – the Murphy portfolios. Here we did the reverse, sorting the returns by month from lowest to highest. First, we considered a 1-stock portfolio composed of the single stock with the lowest return in each month. Next, we considered an equally weighted 2-stock portfolio composed of the 2 stocks with the two lowest returns in each month. We continued in this same manner with portfolios from 3 stocks to 500 stocks. The average monthly return and standard deviation for various portfolio sizes of the Murphy portfolios is also shown in Table 1.

Table 1: Average Return & Standard Deviation of Portfolios

	Murphy Portfolios		Pollyanna Portfolios	
Portfolio Size	Average Monthly Return	Standard Deviation	Average Monthly Return	Standard Deviation
1	-42.0%	16.9%	53.7%	29.5%
2	-37.9%	14.9%	48.4%	26.0%
3	-35.2%	14.0%	44.7%	24.1%
4	-33.3%	13.4%	42.0%	22.7%
5	-31.9%	13.0%	39.8%	21.3%
6	-30.7%	12.7%	38.0%	20.2%
7	-29.7%	12.4%	36.5%	19.2%
8	-28.8%	12.2%	35.2%	18.4%
9	-28.1%	12.0%	34.1%	17.8%
10	-27.4%	11.8%	33.1%	17.2%
25	-21.3%	9.8%	25.2%	12.8%
50	-16.7%	8.3%	19.8%	10.0%
100	-12.4%	6.9%	14.8%	7.7%
250	-6.5%	5.2%	8.2%	5.5%
475	-0.4%	4.7%	2.0%	4.8%
490	0.2%	4.8%	1.5%	4.8%
500	0.9%	4.9%	0.9%	4.9%

This results in two data points for each portfolio size, except for the full portfolio of all stocks, in which case the numbers coincide. We have assumed equal weighting, a minimum holding period of at least one month, and ignored transactions costs. Figure 1 shows the average monthly return as a function of the number of stocks in the portfolio. Figure 2 is the same as Figure 1 except that the monthly average return and monthly standard deviation of returns have been annualized. Figure 3 plots returns versus risk for all 999 portfolios (the two portfolios coincide at 500 stocks). In Figure 4 we show the standard deviation of the monthly returns as a function of portfolio size. Figures 5-7 are variations of Figure 1; they show the average

monthly return by portfolio size with error bars added that show the range of possible returns for a given portfolio size.

The Pollyanna and Murphy portfolios, even though they represent the most extreme limits of possibilities, are instructive in many ways. They offer insights concerning returns as well as risk. However, the instructor does need to make the point that this is a type of thought experiment. We are not saying that someone would or could realistically choose portfolios like these. With this caveat in mind, looking at extreme results is interesting and instructive. Below is a list of the main lessons from these extreme portfolios, with a brief explanation regarding each point. The most obvious points are presented first.

1-The returns on the best case 1-stock portfolio are so extraordinarily high that an initial investment of $1,000 would be worth, on average, about $17,400 in merely one year. The average monthly return on the best 1 stock portfolio is 53.7 percent, while that of the best 25 stocks is 25.2 percent. The instructor does need to reinforce that these results would be totally unrealistic to achieve (see point 8).

2-The returns on the worst case portfolio are so extraordinarily low that an initial investment of $1,000 would be worth, on average, only $1.45 in merely one year. The average monthly return on the worst 1 stock portfolio is -42.0 percent, while that of the worst 25 stocks is -21.3 percent. While the probability arguments are the same for this case as point 1, it is rather sobering to see how quickly horrible choices could decimate wealth.

3-As more stocks are added to the portfolio, the worst case scenario improves at a rapid rate. This can be seen in Figure 1. For a 5 stock portfolio, the average monthly return on the Murphy portfolio is –31.9 percent. However, for a 50 stock portfolio, the average monthly return on the Murphy portfolio is -16.7 percent. For 100 stocks, the average monthly return on the Murphy portfolio is –12.4 percent. While all of these results would still be disastrous, the worst case scenario clearly improves markedly as more stocks are added to the mix of possibilities.

4-As more stocks are added to the portfolio, the best case scenario quickly begins to lose some of its luster, although the returns are still very high even for quite large portfolio sizes. This can be seen in Figure 5-.This is the flip side of the previous point and illustrates the risk-return tradeoff of no pain, no gain. If you limit the downside, then you also limit the upside. For a 5 stock portfolio, the average monthly return on the Pollyanna portfolio is 39.8 percent. However, for a 50 stock portfolio, the average monthly return on the Pollyanna portfolio is 19.8 percent. For 100 stocks, the average monthly return on the Pollyanna portfolio is 14.8 percent.

6-Adding additional stocks to the portfolio successively narrows the range of possible return outcomes (in other words, the risk) until the range reduces to zero (when all the assets in the selection universe are chosen). Figure 1 shows the envelope of returns as a function of portfolio size. With a 1-stock portfolio, the range of potential outcomes is huge. With 2 stocks, the range narrows. With each successive stock, the range of outcomes narrows, with very large reductions in the range occurring up to about the 100th stock. For pedagogical purposes, we think this result is highly instructive. *This graph clearly illustrates the benefits of diversification in a manner that is not normally highlighted in investments textbooks.* Many investments textbooks present a graph of portfolio standard deviation as a function of the number of stocks in the portfolio, using the results of either Wagner and Lau (1971) or Statman (1987) (see point 10 below). Figure 1 can be used to augment classroom discussion about the benefits of diversification.

1-The limited downside loss of stocks leads to the possibility of highly asymmetric outcomes. Figure 2 is the annualized version of Figure 1; the difference between the two figures is striking. It shows the compounded effect of 12 consecutive outcomes of the monthly average returns at each portfolio size. The Figure 1 results look roughly symmetric; however, Figure 2 dramatizes the underlying asymmetry.

2-Smaller portfolios have greater reward possibilities. This is clearly illustrated in Figure 3, which shows the results in risk-return space. The highest return portfolio is the 1 stock portfolio.

For the Pollyanna portfolios, the points on the curve plot from northeast to southwest as portfolio size increases. For the Murphy portfolios, the points move from southeast to northwest as portfolio size increases. Instructors could use this figure along the same lines as the discussion in point 5.

3-Stock picking is potentially far more lucrative than market timing. During this same 1999-2005 time period, if one could have optimally switched back and forth between U.S. Treasury Bills and an S&P 500 index fund, the average monthly return would have been 2.0%. The potential return differences are great, but the difficulty of stock picking is high. The odds of using a coin flip to make 12 optimal consecutive monthly market timing decisions as to whether to have your money in Treasury Bills or an S&P 500 index fund are 1 in 4096. By comparison, the odds of picking, at random, the best performing stock out of a list of 500 for just 3 consecutive months are 1 in 125,000,000.

1-Even with a fairly large portfolio the range of possible return outcomes in a given month is quite large. This can be seen in Figures 5-7, which are similar to Figure 1, except that error bars have been included to show the range of results and only selected portfolio sizes have been used. Figure 5 focuses on just the Pollyanna portfolios. The maximum monthly return over the entire 84 month period for a portfolio of a given size can be seen from the tops of the error bars. The results are shown for portfolios of size 1, 5, 10, 15, etc.; reducing the points on the graph improves readability. For a portfolio of 300 stocks, the maximum monthly return was close to 20% (the actual value of 19.9% occurred in November 2002). Figure 6 shows similar results for the Murphy portfolios. In this case the bottom of the error bars in Figure 6 shows the worst single outcome over the entire period by portfolio size. For a 300 stock portfolio, the minimum monthy return was close to -20% (the actual value of -20.7% occurred in September 2001). Figure 7 is essentially a combination of Figures 5 and 6. However, the portfolio sizes used are 1, 10, 20, etc. and 5, 15, 25 etc. The offsetting of the portfolio sizes by five stocks makes the chart more readable.

2-The standard deviation of monthly returns drops rapidly as the portfolio size increases and gradually becomes fairly level. This

can be seen in Figure 4. This figure, although it is based on different assumptions, is roughly similar to the graph of portfolio standard deviation versus portfolio size in Wagner and Lau (1971) or Statman (1987). Our portfolios are purposefully constructed assuming foreknowledge of outcomes, rather than being randomly selected groupings of stocks. The Wagner and Lau (1971) and Statman (1987) results show that most of the benefits of diversification have been achieved with a portfolio of roughly 20-30 stocks, with little reduction in standard deviation for portfolios that are larger. Figure 4 shows a slightly different pattern. The standard deviation does drop sharply as more stocks are added, however the gains in reduced standard deviation are still substantial up to about 200-250 stocks.

CONCLUDING OBSERVATIONS

While the Murphy and Pollyanna extreme portfolios have many important lessons, the two points that we think are underemphasized in investments education are 5 and 7. Figure 1 provides a clear picture, in a sideways funnel, of how portfolio size affects the range of possible returns. Educators and/or financial planners can use this result to instruct students/clients about the nature of risk and the value of diversification with a diagram that is different than other traditional tools. Concerning point 7, Andrew Carnegie and Mark Twain (there is some dispute about the origin of the quote) said: "Concentrate; put all your eggs in one basket, and watch that basket..." Diversification assumes that one is not a great stock picker. Instructors can ask: "If you magically had a copy of the Wall Street Journal dated a year from today, how large of a portfolio would you hold between now and then." We are not arguing against diversification, but think that it is useful for students to clearly see the issue from all sides.

Instructors could choose to cover all ten of the points we have listed or just a subset of the ten. Instructors in an introductory investments course may want to focus on Figures 1 and 2, with just a discussion of points 1, 2, 5, 6 and 7. Some possible discussion questions are:

1-Why not just go for the gold and simply invest in one carefully chosen stock?

2-Suppose you were either extremely skillful (or very lucky) and quadrupled your wealth in 6 months. Would you continue to put it all on the line?

3-Suppose you selected one stock and saw it decline by 50% in one month. What would you do then?

4-What are the pros and cons of holding a well-diversified portfolio?

5-If some stocks increase by 50 or more percent in one month, why would a long-run return of only 15 percent annually be considered good?

6-How is Figure 1 different from the results of Wagner and Lau (1971) or Statman (1987)? What is the difference in how the results are generated?

7-Suppose an investor started with the following idea: "I am going to start my portfolio construction by assuming that I am going to hold all the stocks in my investable universe (perhaps the S&P 500). Then I am going to focus on trying to find 10 stocks to avoid, leaving me with a 490 stock portfolio." Which 490 stock portfolio would this correspond to – the 490 stock Pollyanna portfolio or the 490 stock Murphy portfolio?

Instructors can engage in discussions of probability and statistics using points 1, 2, 8, 9 and 10. Some possible discussion questions along these lines are:

1-Suppose you used a random number generator (or 500-sided die, if one existed), to try to choose the single best-performing stock each month. What is the probability of choosing the best (or worst) performer n months in a row?

2-Suppose you used a coin flip to decide whether or not to be in an index fund or T-bills each month. What is the probability of choosing the better-performing asset n months in a row?

3-Assuming random choices as in problems 1 and 2, the probability of making the right market timing decision each month would be equivalent to how many months of perfect stock selection? What would be the likely return differences under each of these scenarios?

4-How would your answers to 1 and 3 change if you simply focused on the stocks in the Dow Jones Industrial Average?

5-What is the difference, from a statistical viewpoint, between Figure 4 and the graphs in Wagner and Lau (1971) or Statman (1987)?

6-Would it make sense to add error bars, along the lines of those in Figures 5-7 to the Wagner and Lau (1971) or Statman (1987) graphs?

7-Are there other types of error bars, not based on range, which might be drawn in Figures 5-7?

As a project, the instructor could require students to replicate our results on a smaller scale. Data availability is different at different schools, but monthly prices and dividends are easily available on Yahoo Finance. The project assignment could be:

Choose 10 stocks and gather data to compute monthly returns on each stock for 1 year. Sort the returns from highest to lowest in each month. Compute the average monthly return from holding a 1 stock portfolio each month, consisting of the best-performing stock each month. Do the same calculations for portfolios of the 2 best-performing stocks each month. Repeat this for portfolios ranging from 3 stocks to 10. Now, reverse the sort with the process, forming portfolios consisting of the 1 worst-performing stock each month, the 2 worst, 3 worst, etc. Construct a graph of your results with monthly average return on the Y-axis and the number of stocks in the portfolio on the X-axis. You will have 20 data points, except that the two ten stock portfolios will coincide, leaving 19 distinct data points. What conclusions do you draw about the benefits of diversification? What do you "give up" when you diversify? A possible extension of the assignment would be to compare these results to perfect market timing (and the opposite worst case) between a money market fund and a stock index fund.

The basic concept of the extreme portfolios is fairly easy to explain. Once students get their minds around the idea, there are many ways that the instructor can use this approach to augment other traditional tools.

REFERENCES

Becker, Y.L. and Ochman, R.J. (2004), "Predicting extreme performers in european equities," *Journal of Asset Management*, 4(6), 367-391.

Glickman, D., Dirienzo, A.G., and Ochman, R.J. (2001), "Extreme Stock Returns," *Journal of Asset Management*, 2(2), 107-127.

Reinganum, M.R (1988), "Anatomy of a stock market winner," *Financial Analysts Journal*, March/April, 16-28.

Statman, Meir, (1987), "How many stocks make a diversified portfolio?," *Journal of Financial & Quantitative Analysis*.22, no. 3: 353.

Wagner, W.H., and S. C. Lau, (1971), "The effect of diversification on risk." *Financial Analysts Journal*, November/December, 48-53.

Figure1
Average Monthly Returns by Portfolio Size

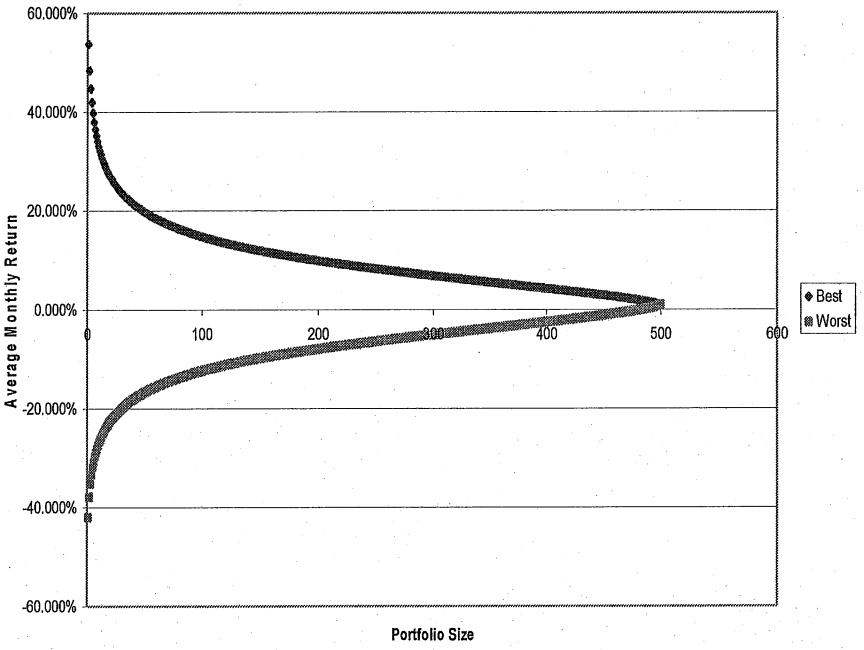


Figure 2
Annualized Returns by Portfolio Size

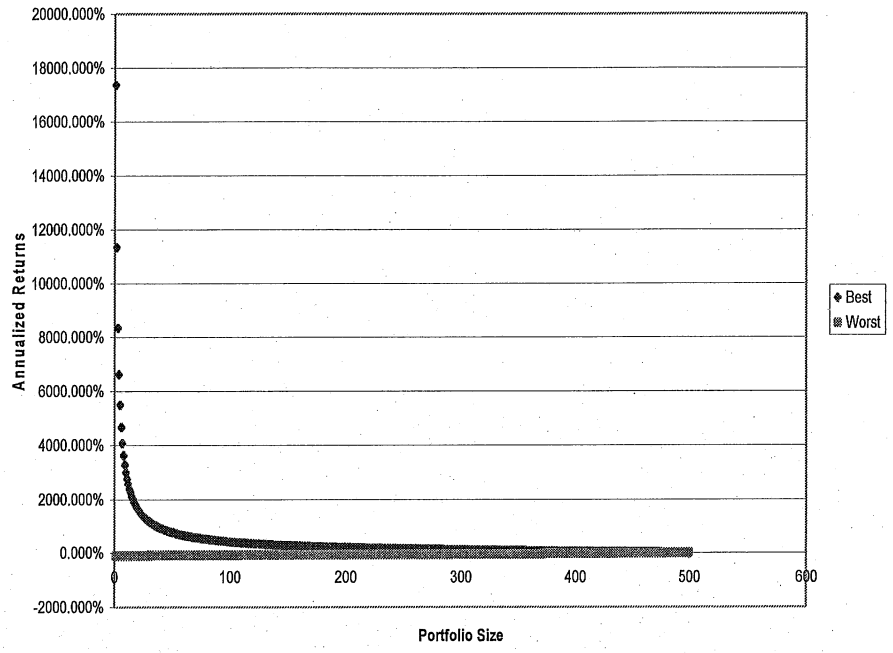


Figure 3
Risk/Return - Average Monthly Return vs Standard Deviation

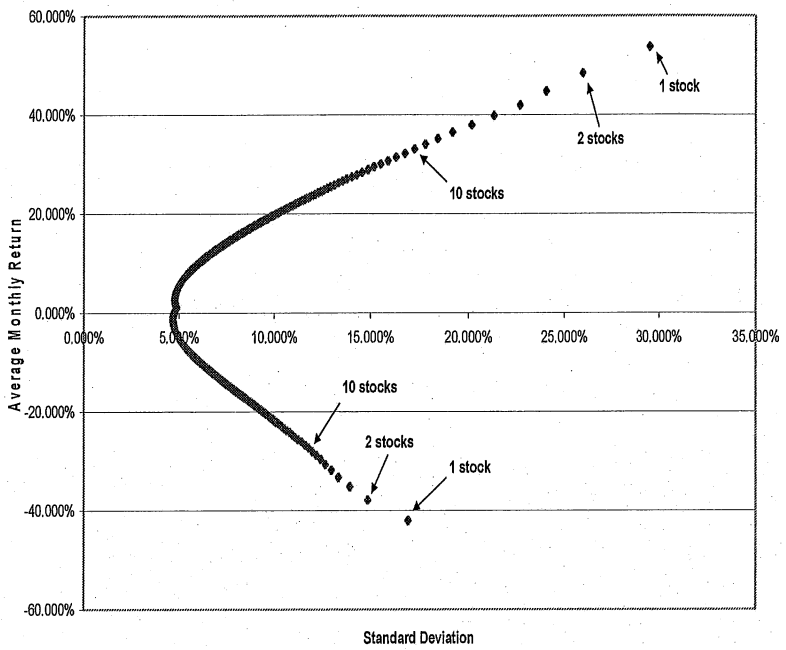


Figure 4
Standard Deviation of Returns

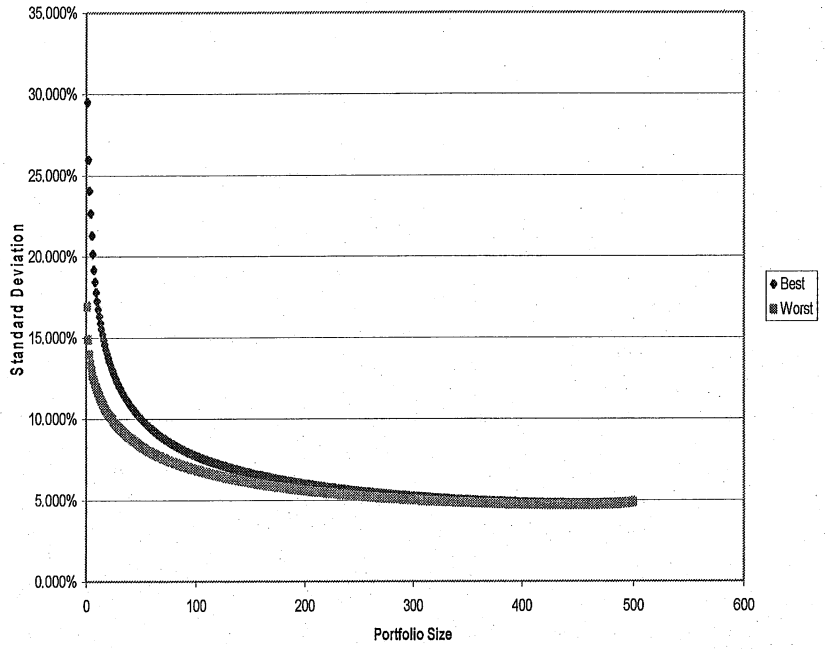


Figure 5
Pollyanna Portfolios
Average Monthly Return with Range

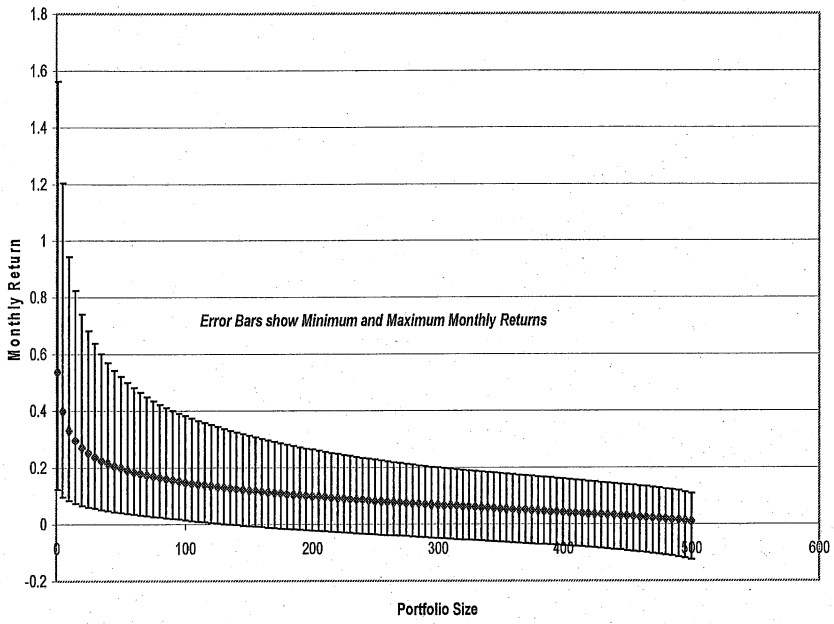


Figure 6
Murphy Portfolios
Average Monthly Return with Range

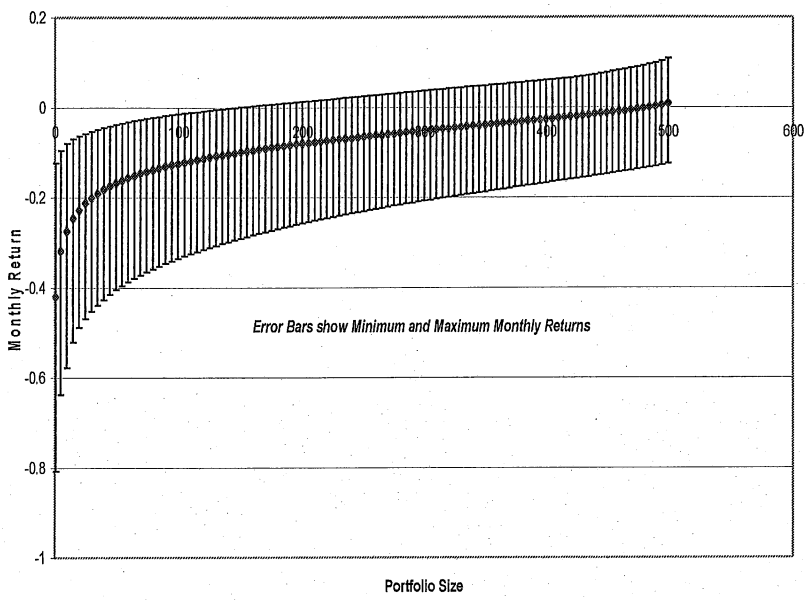
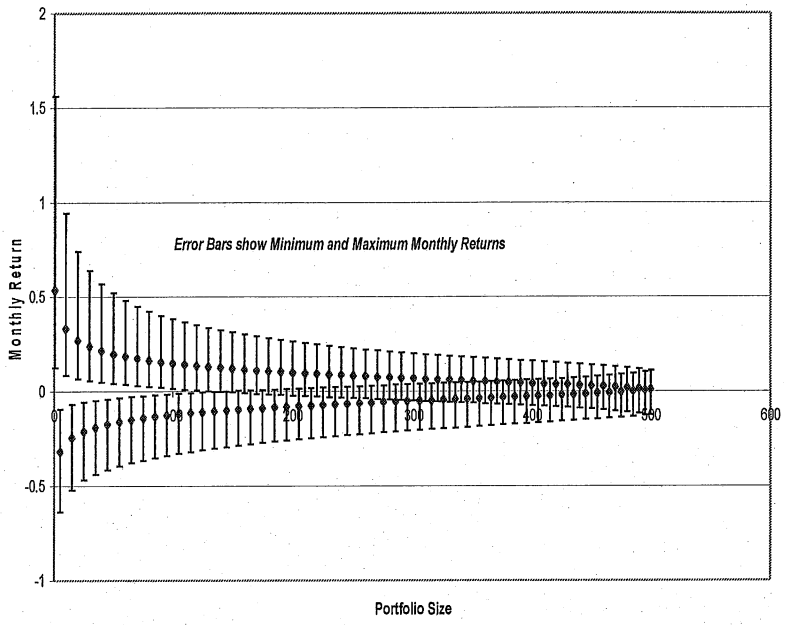


Figure 7
Pollyanna and Murphy Portfolios
Average Monthly Return with Range



AUTHORS

Richard J. Bauer, Jr. is Professor of Finance in the School of Business and Administration at St. Mary's University in San Antonio. He can be reached at rbauer@stmarytx.edu.

Dam Cho teaches finance in the College of Business Administration at the Chonnam National University in Korea. Dam can be reached at damcho@chonnam.ac.kr

Julie R. Dahlquist is Senior Lecturer in the Department of Finance at The University of Texas- San Antonio. She can be reached at Julie.Dahlquist@utsa.edu.