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

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ABSTRACT

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. 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". 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.

A survey instrument was used for the study. One school is used to examine the following research questions:

- *Are university students knowledgeable or 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?*

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. 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.

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. 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.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 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.

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 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.

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

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

- (11/25/2002) About GAP, **http://www.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**

Gravois, J., (2006) Colleges Fail to Teach Civic Literacy, Report Says, **http://www.chronicle.com**

Martin and Neal (2002), Restoring America's Legacy: The Challenge of Historical Legacy in the 21st Century, **http://goacta.org/reports.html**

Sack, R. (October 2001) "Albrecht/Sack Study". *Proceedings of the 27th Annual Seminar on Accounting Education Conference.* Austin, Texas.

Wallace (1991), *Accounting Research Methods: Do the Facts Speak for Themselves?*, Irwin, Boston.

TABLES

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	

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%

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
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%

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
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%

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

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."
"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."