

# **The Impact of Personal Finance Courses on Students' Financial Decisions**

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## **ABSTRACT**

The purpose of the Personal Finance course offered at a large four-year comprehensive Midwestern state university is to provide students a framework for making financial decisions. After completing the course, it is hoped that students will not only have an understanding of financial facts and tools but that they will also be able to use their knowledge in real world applications. The myriad of financial decisions that they will ultimately have to make in their personal lives will require many financial analysis skills.

This study investigates the level of learning within the Personal Finance course. Using Bloom's taxonomy of learning (1956), the study develops a tool for Personal Finance courses that can be used to assess personal financial analysis skills, evaluates the financial analysis skills gained in a Personal Finance course, and evaluates the impact of student demographics on learning personal finance. This study employs a pre- and post-course survey. The multiple choice survey has 15 questions requiring an application or analysis of five areas of financial decisions: retirement saving, taxes, debt, insurance, and investing.

## INTRODUCTION

The purpose of the Personal Finance course offered at a large four-year comprehensive Midwestern state university is to provide students a framework for making financial decisions. After completing the course, it is hoped that students will not only have an understanding of financial facts and tools but that they will also be able to use their knowledge in real world applications. The myriad of financial decisions that they will ultimately have to make in their personal lives will require many financial analysis skills.

High levels of consumer debt, low savings rates, and record bankruptcies are commonly considered the result of low financial literacy levels. As a result, many states have initiatives to educate the public in saving, investing and financial planning for long-term financial independence, or otherwise to improve their level of financial literacy. The Organization for Economic Cooperation and Development defines “financial education” as:

“The process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction, an/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being” (OECD, 2005, p. 5).

Most academic institutions are actively involved in continuous improvement of their study programs. The Personal Finance course is normally an elective within the general education degree requirements for all students. Continuous improvement includes outcomes assessment, evaluation of results, and recommendations for course improvement. The tendency in the assessment phase is to test students for factual accuracy of personal finance topics upon completion of the course. However, within the context of Bloom’s taxonomy of educational objectives (Bloom, 1956) and personal finance, the goal of the course is not only financial knowledge and comprehension, but the ability of students to begin the application and analysis of personal financial tools and concepts to make informed decisions.

This study investigates the level of learning within the Personal Finance course. Using Bloom’s taxonomy of learning (1956), the study develops a tool for Personal Finance courses that can be used to assess personal financial analysis skills, evaluates the financial analysis skills gained in a Personal Finance course, and evaluates the impact of student demographics on learning personal finance.

## LITERATURE REVIEW

There have been several studies of financial literacy in the United States. A survey conducted for the National Council on Economic Education by Harris Interactive (National Council on Economic Education, 2005) found that nearly all U.S. adults believe that it is “important to have a good understanding of economics” (p. 2). However, their evidence showed that actual financial knowledge was sorely deficient for both high school students and adults. The survey consisted of a 24-item questionnaire on topics group into categories including “Economics and the Consumer,” “Money, Interest Rates and Inflation,” and “Personal Finance.” Resulting grades

were an average score of C for adults and an F for High School students, the lowest scores being in sections on money, interest rates, inflation, and personal finance.

Low levels of financial literacy are confirmed by related research by the Jump\$tart Coalition for Personal Financial Literacy that focused on U.S. high school students (Mandell, 2002). That group's 2004 and 2006 surveys on basic personal financial management skills showed that students fared poorly on credit management and personal finance questions, and they also knew little about stocks, bonds, and other investments. A larger study by Hogarth and Higert (2002) utilizing data from the University of Michigan's 2001 Survey of Consumers also documents average American's lack of financial knowledge. Some 1,000 adult respondents were given a 28-question True/False Financial Literacy quiz with questions examining knowledge about credit, saving patterns, mortgages, and general financial management. The study found that most Americans could correctly answer only two-thirds of the questions. A similar study by Lusardi and Mitchell (2006) found that fewer than 35% of respondents could correctly answer questions on interest compounding, inflation, or risk diversification. They found that financial illiteracy was "particularly acute for Blacks and Hispanics, women, and those with low educational attainment" (p. 37). Surveys done by Moore (2003) and Agnew and Szykman (2005) concluded that adults in general, and more specifically university students, are particularly uninformed about bonds, mutual funds, stocks, risk diversification, or interest rates. This research confirmed conclusions from surveys conducted by the Employee Benefits Research Institute (1996).

A major challenge for Personal Finance course instructors is how to prepare and measure the level of student success in acquiring not only finance facts but also the skill and competencies needed in an environment that requires them to be responsible for major personal finance decisions. Today's young adults must have financial management skills to wade through difficult decisions on credit cards, car loans, mortgages, home, auto, life, and health insurance, retirement saving and investing. Many of the financial products being offered are complex and can have significant long term impacts on financial lives. Studies show, however, that most college testing involves recalling memorized facts (Crooks, 1998). It seems that most testing activities focus on recalling and understanding principles and concepts. Learning is limited to a shallow level and critical thinking is not emphasized or evaluated. Additional testing should be done to evaluate the student's ability to analyze, synthesize and evaluate material. The Personal Finance course is unique in that it is not taught solely by the "Chalk and Talk" method that Becker and Watts (2001) found in many Economics classrooms today. This course offers students numerous personal projects in budgeting, tax preparation, investing, insurance, loan applications, and will preparation. It encourages students to use critical thinking skills to make personal financial decisions.

This study uses Benjamin Bloom's taxonomy of educational objectives (1956) to design a test of student learning in the Personal Finance course. The taxonomy is a framework for analyzing and testing for levels of learning achievement. The taxonomy defines three domains: the cognitive domain, the affective domain and the psychomotor domain. This study will specifically focus on the cognitive domain. Bloom identified six levels of learning for cognitive objectives. In order from lowest level to highest level these are:

- 1) Knowledge
- 2) Comprehension
- 3) Application

- 4) Analysis
- 5) Synthesis
- 6) Evaluation

The knowledge level involves the recall of specifics, methods, and structure. For measurement purposes, the recall situation involves memorization of facts. The comprehension objective represents the lowest level of understanding. With comprehension an individual must not only have knowledge, but must also understand what he/she knows. Application is the use of abstractions in particular and concrete situations. The abstractions may also be technical principles, ideas, and theories which must be remembered and applied. Analysis is the breakdown of material into its constituent elements or parts so that the relative hierarchy of ideas is made clear and/or the relationships between the ideas expressed are made explicit. Synthesis is the process of combining elements to construct a structure not clearly there before. Evaluation is defined as the making of judgments about value relative to ideas, works, solutions or methods. It involves the use of criteria as well as standards for appraising.

### **HYPOTHESES**

- 1) Students with varying demographic backgrounds will not have significantly different preconceived views of personal finance issues.
- 2) Students completing the Personal Finance course will attain levels of application and analysis and will make significantly more informed financial decisions related to retirement savings, taxes, debt, insurance, and investing..
- 3) Students with varying demographic backgrounds will not show significant differences in learning personal finance decision skills.

### **METHODOLOGY**

Students taking the Personal Finance course are given a voluntary pre- and post-course survey. The survey is also anonymous and therefore has no bearing on their course grade. There are currently more than 350 students enrolled in this course each semester. The multiple choice survey has 15 questions requiring an application or analysis of five areas of financial decisions: retirement saving, taxes, debt, insurance, and investing. The students are instructed that the questions have neither right nor wrong answers but are designed to reflect personal decisions and perceptions. Included in the survey are demographic questions. The demographic questions include age, gender, student credit hours completed, ethnicity, and parental income. Examples of the questions used are:

How much money will you need for retirement?

- a. \$250,000 - \$499,999
- b. \$500,000 - \$999,999
- c. \$1,000,000 - \$1,999,999
- d. \$2,000,000 - \$2,999,999
- e. \$3,000,000 or more

You are 35 years old, married with two young children, how much life insurance do you need?

- a. \$50,000 - \$99,999
- b. \$100,000 - \$249,999
- c. \$250,000 - \$499,999
- d. \$500,000 - \$999,999
- e. \$1,000,000 or more

The answers are given values from 1 to 5, with 1 being an uninformed or naive response and 5 representing an informed and educated response. In the above examples, answer (a) would get a value of 1 and the values progress to (e) having a value of 5. It's postulated that significantly greater valued answers on the post survey can be attributed to not just the memorization of facts but the application and analysis of personal financial decisions.

This research project is attempting to answer three questions. The first question is: do students' preconceived notions about financial issues vary by any demographic variables? The second question is: does this class in financial planning have any impact on the students' thinking and decision process concerning financial issues? This issue is further refined by breaking financial issues into various sub groups Retirement Savings (RetSav), Taxes (Tax), Debt (Debt), Insurance (Ins) and Investments (Inv). The final question is: do any demographic variables impact the change in the students' thinking and decision process concerning financial issues, both overall and as per the various sub groups? Using the data that has been gathered, regression techniques can be used to attempt to provide evidence of the answer to this question.

Let's take the first question: what demographic variables tend to influence preconceived thinking about financial issues? The equation for this primary regression model is as follows:

$$Y_{score} = \alpha_{constant} + \beta_{genderM} X_{genderM} + \dots + \beta_{IncA} X_{IncA} + \epsilon_i$$

In this model, the constant provides the expected score for a student who has a zero for each dummy variable. The dummies add or subtract from this base score depending on whether the sign is positive or negative. This is because the X values are either 0 in which case beta times zero simply drops out, or the X is 1 which means that if Beta is positive then add that amount to the base score and if X is negative then subtract that amount from the base score. So if for example, Gender was 1 if female and 0 if male, and Beta took on a value of -3, you would subtract three from the base score for females showing females tend to get a lower base score than males. However, this matters if and only if, the *t* score for the respective Beta is significant, otherwise there is no significant difference in preconceived notions of the financial issue between the sexes.

The first set of models we will go through below are the pre-course models for the demographic variables. They are versions of equation #1 above. At the outset, we believed that individual perceptions of financial issues can be influenced by race, gender, socioeconomic status, education, and age. When the data was gathered, this demographic data was also collected. This data was then coded to produce a series of dichotomous explanatory variables. Age was coded 0 for those 20 - 24 yrs. and the dummy variables used were: teens, 25 - 29 yrs., 30 - 34 yrs., and 35 or older. Gender was coded 0 for male (the base score) and 1 for female. Education was divided

by credit hours completed. Those with 0 - 30 credit hours were used as the base, and the dummy variables used were: 31 - 60 credit hours, 61 - 90 credit hours, 91 - 120 credit hours, and 121 credit hours or more. Resident Status used Oklahoma U.S. Citizen as the base with dummy variables: Out-of-state U.S. Citizen, Resident Alien (Green Card), International Student (International students on a student visa), and Dual Citizenship (U.S. & other). Ethnic group coded Caucasian-American as the base group and the dummy variables were: African-American, Hispanic-American, Asian-American, and Native-American. Parents' Household Income uses \$35K - 55K as the base group, and dummy variables: \$15K - 35K, \$55K - 75K, and \$75K or more.

On the data gathered before the students had taken the course, the following six models were run,

$$Y_{Total} = \alpha_{constant} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (1)$$

$$Y_{RetSav} = \alpha_{constant} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (2)$$

$$Y_{Tax} = \alpha_{constant} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (3)$$

$$Y_{Debt} = \alpha_{constant} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (4)$$

$$Y_{Ins} = \alpha_{constant} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (5)$$

$$Y_{Inv} = \alpha_{constant} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (6)$$

As can be seen from the above, equation #1 is meant to capture the impact of the demographic variables on the Total Score, equation #2 is based on the impact of the demographic variables on opinions concerning notions of Retirement Savings (RetSav), equation #3 is meant to show the impact of the demographic variables on opinions concerning Taxes (Tax), equation #4 is meant to capture the impact of the demographic variables on beliefs of personal Debt, equation #5 displays the impact of the demographic variables on thinking concerning Insurance (Ins), and equation #6 captures the impact of the demographic variables on thinking concerning Investments (Inv). The results of these regressions are reported in Results and in Table 1 below.

The next question that this study is meant to investigate is: did this class have an impact on the students' financial thinking and decision process both in the aggregate and relative to the various constructs laid out above? To help answer this question, the data was pooled and another dichotomous dummy was generated and coded 0 for pre-course and 1 for post-course. After this new variable was generated, the following regression equations were estimated:

$$Y_{Total} = \alpha_{constant} + \beta_{group}X_{group} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (7)$$

$$Y_{RS} = \alpha_{constant} + \beta_{group}X_{group} + \beta_{genderF}X_{genderF} + \dots + \beta_{IncA}X_{IncA} + \varepsilon_i \quad (8)$$

$$Y_{Taxes} = \alpha_{constant} + \beta_{group}X_{group} + \beta_{genderF}X_{genderF} + \dots + \beta_{InCA}X_{InCA} + \varepsilon_i \quad (9)$$

$$Y_{Debt} = \alpha_{constant} + \beta_{group}X_{group} + \beta_{genderF}X_{genderF} + \dots + \beta_{InCA}X_{InCA} + \varepsilon_i \quad (10)$$

$$Y_{Insurance} = \alpha_{constant} + \beta_{group}X_{group} + \beta_{genderF}X_{genderF} + \dots + \beta_{InCA}X_{InCA} + \varepsilon_i \quad (11)$$

$$Y_{Investing} = \alpha_{constant} + \beta_{group}X_{group} + \beta_{genderF}X_{genderF} + \dots + \beta_{InCA}X_{InCA} + \varepsilon_i \quad (12)$$

These equations are also used to capture the impact of the demographic variables on overall aggregate learning and students' learning relative to the five various subjects built into the students' survey responses. The effects of these regression equations are displayed in Results and in Table 2 below.

## RESULTS

In the first regression model series, the data indicates that there were demographic differences in the students' preconceived beliefs in financial issues before taking the personal finance course. In the first six equations, the base demographic for creating the dummy variables was a 20 – 24 year old, Caucasian male U.S. citizen with less than 30 credit hours and a family income of \$35 – 55K. Positive regression coefficients indicate a more informed knowledge of the subject matter relative to the base demographic; conversely, a negative regression coefficient implies a less informed level of knowledge relative to the base level demographic. Relative to the total scores, those aged 30 – 34 (+3.072,  $t = 2.09$ ,  $\alpha \leq .05$ ) and those with family income over \$75K (+1.835,  $t = 2.90$ ,  $\alpha \leq .01$ ) had significantly more informed views of personal finance concepts. Regarding the survey questions relating to retirement savings, college sophomores, 31 - 60 credits (+.523,  $t = 2.12$ ,  $\alpha \leq .05$ ), Native-American (+1.075,  $t = 2.79$ ,  $\alpha \leq .01$ ), and family income over \$75K (+.791,  $t = 3.51$ ,  $\alpha \leq .01$ ) showed significance. There were no differences demographically pertaining to the tax questions. Only one group, International students on a student visa, (+1.092,  $t = 3.01$ ,  $\alpha \leq .01$ ) on the debt topics and one, family income over \$75K (+.440,  $t = 2.43$ ,  $\alpha \leq .05$ ), on the insurance issues. Four categories displayed significance regarding investment savvy, students aged 30 - 34 years old (+1.582,  $t = 2.59$ ,  $\alpha \leq .01$ ), International students on a student visa (+.954,  $t = 2.16$ ,  $\alpha \leq .05$ ), family income \$15 - 35K (+.708,  $t = 1.96$ ,  $\alpha \leq .05$ ), and family income over \$75K (+.578,  $t = 2.19$ ,  $\alpha \leq .05$ ).

Equations seven through twelve were utilized to analyze the students' scores in the pre- and post-course pooled data. Hypotheses two and three relate to the level of learning attained by students and whether there were any demographic differences in the students' learning over the semester's coursework. The students' scores on the survey questions imply different levels of learning achieved according to Bloom's taxonomy of learning. A higher coefficient indicates that this personal finance course did have a positive impact on students' ability to apply and analyze personal finance issues. The variable Group represents the pre- and post-course survey results, with the pre-course as the dummy variable. A positive coefficient indicates a higher understanding of the finance topic in the post-course survey relative to the pre-course score. In the Group row on Table 2, there were four significant overall outcomes relating to the second hypothesis, "Students completing the Personal Finance course will attain levels of application and analysis and will make significantly more informed financial decisions related to retirement savings, taxes, debt, insurance, and investing." The Group total coefficient was .997 with a  $t =$

2.69, and a significance level equal or greater than 99%. The overall Group scores were also significant for retirement savings (+.428,  $t = 3.16$ ,  $\alpha \leq .01$ ), tax (-3.70,  $t = -2.45$ ,  $\alpha \leq .05$ ), and investments (+.577,  $t = 3.72$ ,  $\alpha \leq .01$ ).

Demographically, there were considerably more significant outcomes in the pre- and post-course pooled data than in the first six regression equations. In the aggregate model, equation 7, eight of the categories were significant: Teens (+1.347,  $t = 2.68$ ,  $\alpha \leq .01$ ), students aged 30 - 34 years old (+3.417,  $t = 3.18$ ,  $\alpha \leq .01$ ), Female students (-.770,  $t = -2.01$ ,  $\alpha \leq .05$ ), 31 - 60 credits (+1.065,  $t = 2.12$ ,  $\alpha \leq .05$ ), 61 - 90 credits (+1.264,  $t = 2.22$ ,  $\alpha \leq .05$ ), 91 - 120 credits (+1.842,  $t = 2.58$ ,  $\alpha \leq .01$ ), 120 or more credits (+2.753,  $t = 2.52$ ,  $\alpha \leq .05$ ), and family income over \$75K (+1.480,  $t = 3.29$ ,  $\alpha \leq .01$ ). Retirement savings had five groups: 35 or older (+.860,  $t = 2.19$ ,  $\alpha \leq .05$ ), 31 - 60 credits (+.455,  $t = 2.46$ ,  $\alpha \leq .05$ ), 91 - 120 credits (+.537,  $t = 2.06$ ,  $\alpha \leq .05$ ), Native-American (+.963,  $t = 3.19$ ,  $\alpha \leq .01$ ), and family income over \$75K (+.664,  $t = 4.03$ ,  $\alpha \leq .01$ ). Unlike the tax questions in the first model series, the pre- and post-course pooled data showed significance in two categories: 35 or older (-.936,  $t = -1.96$ ,  $\alpha \leq .05$ ) and 120 or more credits (+.898,  $t = 2.02$ ,  $\alpha \leq .05$ ). Debt had four categories: Teens (+.336,  $t = 1.98$ ,  $\alpha \leq .05$ ), 61 - 90 credits (+.567,  $t = 2.96$ ,  $\alpha \leq .05$ ), 91 - 120 credits (+.538,  $t = 2.24$ ,  $\alpha \leq .05$ ), and International students on a student visa (+.800,  $t = 3.21$ ,  $\alpha \leq .01$ ). Three groups displayed significance in insurance: Teens (+.296,  $t = 2.07$ ,  $\alpha \leq .05$ ), Native-American (+.461,  $t = 1.96$ ,  $\alpha \leq .05$ ), and family income over \$75K (+.328,  $t = 2.56$ ,  $\alpha \leq .01$ ). Finally, investments had seven significant groupings: students aged 30 - 34 years old (+1.767,  $t = 3.93$ ,  $\alpha \leq .01$ ), Female students (-.553,  $t = -3.45$ ,  $\alpha \leq .01$ ), 91 - 120 credits (+.665,  $t = 2.23$ ,  $\alpha \leq .05$ ), International students on a student visa (+.707,  $t = 2.28$ ,  $\alpha \leq .05$ ), family income \$15 - 35K (+.610,  $t = 2.43$ ,  $\alpha \leq .05$ ), family income \$35 - 75K (+.595,  $t = 2.54$ ,  $\alpha \leq .01$ ), and family income over \$75K (+.420,  $t = 2.23$ ,  $\alpha \leq .05$ ).

Interestingly, only three significant groups scored lower than the base demographic. On the tax questions, the 35 and older group was -.936, which was significant at the 95% or higher level. Additionally, Female students scored lower on both investments, -.533 at 99%, and in the overall aggregate, -.770 at the 95% or greater significance level. These will be discussed in the conclusions section.

## CONCLUSIONS

According to the data analysis, the first hypothesis, “students with varying demographic backgrounds will not have significantly different preconceived views of personal finance issues,” was not confirmed. There were demographic variables that indicated a significant difference in preconceived beliefs on financial issues in this study’s sample. Older students appear to be significantly more informed overall, and in particular in decisions related to investments. International students on a student visa were more informed on debt and investment issues relative to U.S. students. Inexplicably, sophomore students and Native-American students appear to be more informed on retirement savings, but this study cannot explain why. The most common significance was found in family incomes over \$75K, overall as well as retirement savings, insurance, and investments.

The second hypothesis, “students completing the Personal Finance course will attain levels of application and analysis and will make significantly more informed financial decisions related to retirement savings, taxes, debt, insurance, and investing,” appears to have been validated in the overall and also in retirement savings, tax, and investments. This may indicate that the subjects



of debt and insurance may need more focus at the application and analysis levels of learning in this institution's personal finance courses.

The third hypothesis, "students with varying demographic backgrounds will not show significant differences in learning personal finance decision skills," was rejected. Relative to the base demographic group, teens and students over 30 exhibited an increased level of financial decision skills. Consistent with previous financial literacy research, female students displayed less impact than males in financial skills from attending a personal finance course. Students at the sophomore level and above learned at a higher level than the base group of freshman students, as was expected due to more experience and maturity of older students. Family income levels of \$75K or more achieved application and analysis levels of financial learning. International students on a student visa attained a higher level relative to the base on debt and investment issues. This may be due to a higher level of interest in those areas and their impact on foreign currency exchange rates. Native-American students displayed higher learning in retirement savings and insurance issues.

This study's results do indicate that university students taking a personal finance course achieve higher levels of learning, reaching the application and analysis levels described by Bloom's taxonomy of educational objectives. This study's data implies that this personal finance course encourages students to develop critical thinking skills in making financial decisions regarding retirement savings, taxes, debt, insurance, and investments.

## REFERENCES

- Agnew, J. & Szykman, L. (2005). Asset allocation and information overload: The influence of information display, asset choice and investor experience. *Journal of Behavioral Finance*, 6(2), 57-70.
- Becker, W. E., & Watts, M. (2001). Teaching methods in U.S. undergraduate economics courses. *Journal of Economic Education*, 32(3), 269-279.
- Bloom, B., ed. (1956). *Taxonomy of educational objective. Book 1: Cognitive Domain*. New York: David McKay.
- Crooks, T. J. (1998). Impact of classroom evaluation on student. *Review of Educational Research*, 58(1), 438-481.
- Employee Benefits Research Institute. (1996, January). *Participant education: Actions and outcomes* (Issue Brief No. 169). Washington, DC
- Hogarth, J. M. & Higer, M. A. (2002). Financial knowledge, experience and learning preferences: Preliminary results from a new survey on financial literacy. *Consumer Interests Annual*, 48, Retrieved on Nov. 1, 2008, from <http://www.consumerinterests.org/files/public/FinancialLiteracy-02.pdf>
- Lusardi, A. & Mitchell, O. S. (2007). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business Economics*, 42(1), 35-44.

Mandell, L. (2002). Financial Literacy: A Growing Problem. In T. A. Durkin & M. E. Staten (Eds.), *The Impact of Public Policy on Consumer Credit* (pp. 149 – 160). Washington, DC: Jump\$tart Coalition.

Moore, D. (2003). *Survey of financial literacy in Washington State: Knowledge, behavior, attitudes, and experiences* (Technical Report No. 03-39). Washington State University, Social and Economic Sciences Research Center.

National Council on Economic Education. (2005). *What American teens and adults know about economics: Executive summary*. Retrieved on Nov. 1, 2008, from [http://www.ncee.net/ce/WhatAmericansKnowAboutEconomics\\_051105-ExecSummary.pdf](http://www.ncee.net/ce/WhatAmericansKnowAboutEconomics_051105-ExecSummary.pdf)

OECD. (2005). *Recommendation on principles and good practices for financial education and awareness*. Retrieved on Nov. 1, 2008, from <http://www.oecd.org/dataoecd/7/17/35108560.pdf>

## APPENDIX

Equation	1	2	3	4	5	6
	Total	RetSav	Tax	Debt	Ins	Inv
Teens	.696 (1.00)	.087 (.35)	.007 (.02)	.094 (.39)	.306 (1.54)	.202 (.70)
25 - 29Yrs.	.430 (.39)	.130 (.33)	-.053 (-.12)	-.042 (-.11)	.282 (.89)	.113 (.25)
30 - 34Yrs.	3.072 (2.09)*	.489 (.94)	.207 (.36)	.082 (.16)	.711 (1.69)	1.582 (2.59)**
35 or older	1.325 (.73)	.494 (.77)	-.444 (-.62)	.322 (.52)	.782 (1.51)	.171 (.23)
Female	-.663 (-1.23)	-.218 (-1.13)	.117 (.55)	.070 (.38)	-.232 (-1.50)	-.399 (-1.78)
31 - 60 credits	.787 (1.31)	.523 (2.12)*	-.013 (-.05)	.004 (.02)	.065 (.33)	.207 (.72)
61 - 90 credits	.920 (1.14)	.330 (1.15)	-.275 (-.86)	.463 (1.68)	.066 (.29)	.337 (1.00)
91 - 120 credits	1.539 (1.52)	.598 (1.66)	-.272 (-.68)	.327 (.94)	.373 (1.29)	.512 (1.21)
120 or more credits	1.334 (.83)	-.243 (-.43)	.965 (1.52)	-.172 (-.31)	.043 (.09)	.741 (1.11)
Out-of-state US	-1.223 (-.83)	-.325 (-.63)	-.342 (-.59)	-.087 (-.17)	-.305 (-.73)	-.164 (-.27)
Green Card	1.646 (.79)	.749 (1.01)	.396 (.48)	.227 (.32)	.370 (.62)	-.096 (-.11)
Stud. Visa	.985 (.93)	-.508 (-1.35)	-.598 (-1.43)	1.092 (3.01)**	.046 (.15)	.954 (2.16)*
Dual Cit.	-2.803 (-1.09)	-1.382 (-1.51)	-.317 (-.31)	-.836 (-.95)	-.563 (-.77)	.295 (.28)
Afr. Am.	-.314 (-.36)	-.097 (-.32)	.442 (1.30)	-.320 (-1.09)	-.203 (-.82)	-.137 (-.38)
Hisp. Am.	-.416 (-.33)	.430 (.95)	-.480 (-.96)	-.251 (-.58)	-.068 (-.19)	-.047 (-.09)
Asian Am.	1.522 (1.20)	-.120 (-.27)	.403 (.81)	.580 (1.34)	.690 (1.90)	-.031 (-.06)
Nat. Am.	1.927 (1.78)	1.075 (2.79)**	.046 (.11)	.429 (1.16)	.312 (1.01)	.065 (.14)
\$15 - 35K	1.402 (1.62)	.584 (1.89)	-.055 (-.16)	-.226 (-.76)	.391 (1.57)	.708 (1.96)*
\$55 - 75K	.642 (.82)	.294 (1.06)	-.275 (-.89)	.080 (.30)	-.059 (-.26)	.601 (1.85)
\$75K or more	1.835 (2.90)**	.791 (3.51)**	-.087 (-.35)	.113 (.52)	.440 (2.43)*	.578 (2.19)*
Constant	39.660 (53.52)**	10.726 (40.74)**	10.608 (36.21)**	6.174 (24.37)**	4.470 (21.10)**	7.679 (24.89)**

*t*-values in parentheses: \* significant at  $\alpha \leq 5\%$  , \*\* significant at  $\alpha \leq 1\%$ .

**Table 1: Students' Preconceived Beliefs on Financial Issues**

Equation	7	8	9	10	11	12
Score	Total	RetSav	Tax	Debt	Ins	Inv
Group	.997 (2.69)**	.428 (3.16)**	-3.70 (-2.45)*	.194 (1.56)	.168 (1.59)	.577 (3.72)**
Teens	1.347 (2.68)**	.151 (.82)	.245 (1.20)	.336 (1.98)*	.296 (2.07)*	.318 (1.51)
25 - 29Yrs.	.440 (.58)	.267 (.96)	-.331 (-1.07)	-.001 (-.01)	.353 (1.64)	.154 (.49)
30 - 34Yrs.	3.417 (3.18)**	.860 (2.19)*	.326 (.75)	.029 (.08)	.435 (1.42)	1.767 (3.93)**
35 or older	.906 (.77)	.800 (1.86)	-.936 (-1.96)*	.264 (.67)	.520 (1.56)	.259 (.53)
Female	-.770 (-2.01)*	-.049 (-.35)	-.043 (-.28)	.022 (.17)	-.148 (-1.36)	-.553 (-3.45)**
31 - 60 credits	1.065 (2.12)*	.455 (2.46)*	.095 (.46)	.286 (1.69)	.128 (.89)	.103 (.49)
61 - 90 credits	1.264 (2.22)*	.240 (1.15)	.122 (.53)	.567 (2.96)**	.071 (.44)	.263 (1.11)
91 - 120 credits	1.842 (2.58)**	.537 (2.06)*	-.173 (-.60)	.538 (2.24)*	.274 (.18)	.665 (2.23)*
120 or more credits	2.753 (2.52)*	.225 (.56)	.898 (2.02)*	.460 (1.25)	.490 (1.57)	.681 (1.49)
Out-of-state US	-1.017 (-.87)	-.377 (-.88)	-.263 (-.56)	.029 (.07)	-.262 (-.79)	-.144 (-.29)
Green Card	.449 (.35)	-.222 (-.48)	.242 (.47)	.776 (1.81)	.305 (.84)	-.652 (-1.23)
Stud. Visa	1.322 (1.79)	-.089 (-.33)	-.112 (-.37)	.80 (3.21)**	.017 (.08)	.707 (2.28)*
Dual Cit.	-2.412 (-1.19)	-1.030 (-1.39)	-.077 (-.09)	-.83 (-1.22)	-.883 (-1.53)	.413 (.49)
Afr. Am.	-.277 (-.47)	-.065 (-.30)	.225 (.94)	-.238 (-1.21)	-.148 (-.89)	-.050 (-.20)
Hisp. Am.	.394 (.43)	.439 (1.30)	-.488 (-1.30)	.044 (.14)	.070 (.26)	.330 (.85)
Asian Am.	.342 (.43)	-.085 (-.30)	.084 (.26)	-.121 (-.45)	.277 (1.23)	.187 (.57)
Nat. Am.	1.499 (1.82)	.963 (3.19)**	.127 (.38)	-.154 (-.56)	.461 (1.96)*	.103 (.30)
\$15 - 35K	.892 (1.49)	.403 (1.84)	-.097 (-.40)	-.148 (-.73)	.123 (.72)	.610 (2.43)*
\$55 - 75K	.593 (1.06)	.219 (1.07)	-.217 (-.95)	-.063 (-.34)	.060 (.38)	.595 (2.54)**
\$75K or more	1.480 (3.29)**	.664 (4.03)**	-.008 (-.04)	.075 (.50)	.328 (2.56)**	.420 (2.23)*
Constant	39.531 (71.20)**	10.677 (52.58)**	10.507 (46.53)**	6.078 (32.52)**	4.464 (28.23)**	7.806 (33.62)**

*t*-values in parentheses: \* significant at  $\alpha \leq 5\%$  , \*\* significant at  $\alpha \leq 1\%$ .

**Table 2: Impact of the Class on Students' Financial Thinking, Both in the Aggregate and Relative to the Various Subjects**