



The Analysis of Factors Affecting Korean Accounting Knowledge

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Abstract

Purpose – The purpose of this study is to analyze the factors that influence Korean adults to acquire accounting knowledge. This study, which analyzes the characteristics of accounting knowledge of the general public, is expected to be used as basic data for the development of accounting curricula and education programs necessary for liberal arts courses and individual investor education in the future.

Research design, data, and methodology –In this study, correct answer rates in the Economics and Business Literacy Test were analyzed across two rounds of tests. This study have the accounting scores of the applicants as a dependent variable and it aims to estimate key factors that affect accounting scores.

Result – The results of regression analysis for individual variables that both the scores from the business administration and the economics, which were estimated to affect accounting performance, were found to have a positive effect. The results of the analysis of the relationship between major and accounting scores showed that the scores of all other majors were lower than those who majored in business.

Conclusion – The results of this study suggest several implications in lecturing accounting as a basic or principle. Acquiring basic knowledge in economics and business administration was found to play an important role in understanding accounting ideas, indicating that such activities would be helpful when lecturing on accounting.

Keywords: Accounting Comprehension, Accounting Education, Economics Literacy, Business Literacy

JEL Classification Code: A20, C30, C51

1. Introduction

Major central banks worldwide, including the U.S. Federal Reserve, have implemented expansionary monetary policies in preparation for an economic downturn as the coronavirus pandemic spreads. Central banks have lowered standard interest rates to near zero and aggressively increased the money supply, much more than the 2008 Global Financial Crisis. Liquidity has increased substantially due to the efforts to boost the economy, and money flew into real estate, stock, raw material, and cryptocurrency markets. Asset prices of major markets, including stocks and real estate, recovered from the plunge caused by the coronavirus pandemic and are hitting a new high every day. Such sharp rises in asset prices and increased volatility were mainly due to the elevated uncertainty following the non-economic impact that investors have never experienced. Despite such high risks of asset markets, the investment scale of individuals is expanding to a great extent. Participation and decision-making of individuals in the current stock markets and cryptocurrency markets of advanced countries such as the U.S., in particular, are different than what experts or institutional investors have expected, greatly impacting the market.

These days, an increasing number of individual investors are making intuitive investment decisions without referring to a basic financial analysis or accounting information in spite of the increased volatility of asset prices. Individual investors, who may greatly influence the asset market, make such high-risk investment decisions partially because they lack basic knowledge of accounting. In other words, a lack of knowledge and capacity to analyze accounting information can hinder a rational investment decision.

Accounting is an academic area of study that allows us to understand the economic events of modern industrial society in the most concrete and precise way. Measuring and analyzing the accounting knowledge and capabilities of the general public is expected to be meaningful at a time when direct and indirect investment in companies is increasing as more individual investors are participating in the stock market, as mentioned above.

There have been relatively little research on accounting education compared to other research topics in the field of accounting. Most research on measuring accounting knowledge and factors that affect academic achievement, in particular, has been conducted on commercial high school students and students majoring in accounting and business administration.

For studies on accounting education achievements of university students majoring in business administration or accounting in Korea and the formation of accounting knowledge of the subjects, there have been a number of studies, including Kim and Song (1993), Oh and Jo (2018), Ban (2016), and Seok (2009). Furthermore, studies on accounting capabilities and relevant factors were done by many, including Lee (2010). As such, most of the previous studies looked at accounting majors, who take accounting courses as requirements, and few studies measure and analyze the accounting knowledge of the general public and those who learn accounting through liberal art courses.

This paper analyzed the accounting scores of applicants who took the MK Test of Economic & Strategic business Thinking conducted by the Maeil Business Newspaper. Starting in 2009, Maeil Business Newspaper is conducting the MK Test of Economics & Strategic business Thinking eight times yearly. The test consists of 40 questions from the economics and 40 from the business administration, and 20% of the business administration questions are from accounting. Around 2,000 applicants are taking the test each year. Applicants for the MK Test of Economics & Strategic business Thinking used in this study range from teenagers to 60s and have various majors and occupations. This study assesses human characteristics that affect accounting knowledge in three dimensions, unlike previous accounting education studies that set those who majored in accounting as a subject. Thus, this study, which analyzes the characteristics of accounting knowledge of the general public, is expected to be used as basic data for the development of accounting curricula and education programs necessary for liberal arts courses and individual investor education in the future.

Chapter I of this study is an introduction, and Chapter II covers previous studies and theoretical backgrounds. Chapter III describes the research method and the analysis of the research subjects, Chapter IV the research results, and Chapter V the conclusions and implications of the study.

2. Literature Review

Kim and Song (1993) first started measuring and analyzing capabilities and information relevant to accounting in Korea. They analyzed the variables that affect the accounting principle score by using the accounting principle scores of college students majoring in business administration as a dependent variable. Analysis showed that admission scores of the subjects and whether or not they completed commercial subjects in high school significantly affected accounting principles test scores. There was no significant difference in accounting scores according to gender. In a study of majors who have taken accounting principles on their satisfaction and achievement of

education, Lee and Jin (2008) found that differences in years, gender, and education tools did not significantly impact statistics. Hong and Bae (2009) measured the academic achievement of accounting with the scores of respondents, and Lee et al. (2006) measured the same with the GPA of respondents, identifying the variables that affect accounting scores. Kim (2016) analyzed the variables affecting accounting knowledge by using the final score calculated from the combined results of the midterm and final exams as a dependent variable.

With test scores of accounting principles as a dependent variable, Jeon (2004) analyzed how the academic achievement of the subjects is affected by their major, gender, the financial condition of their family, where they are from, how much they are satisfied with the lecture, and whether or not the subjects repeat the course or have work experience. Multiple regression analysis showed that variables like major, whether or not a student repeats the course, lecture satisfaction, and financial condition of the family significantly affected accounting performance. However, difference in the level of academic achievement were not significant according to the gender of the subjects, where they are from, or whether they have work experience or not.

Seok (2007) surveyed the difficulty level of each specific area for students taking accounting principles and analyzed factors that affect the difficulty level felt by students. Respondents found ideas related to “cash and cash equivalents and short-term financial products” most difficult. For the easiest chapter, respondents answered “the concept of accounting.”

Using the core principles of accounting, Lim (2017) measured the value of accounting as a liberal arts subject, not merely a subject for majors, and suggested characteristics of accounting education as a liberal arts course. He verified the validity of the principle of double bookkeeping, the principles of debit and credit, and the principle of accrual basis among the core accounting principles.

Oh (2011) analyzed how the characteristics of students affect the level of academic achievement in accounting education. By grouping learning attitudes of students, Oh analyzed the effect of learning attitudes on accounting knowledge acquisition. She focused on accounting courses as a liberal arts subject and analyzed the effect of the attitude of students toward learning. The analysis showed that the difference in scores was statistically significant depending on whether or not the students had previously studied the course. In statistics, those with high patience and adaptability and introverted had significantly higher scores in accounting.

3. Methodology

3.1. Data

This study aims to measure the accounting capability of applicants and verify major variables that affect their accounting knowledge by using the accounting scores of those who have taken the MK Test of Economics & Strategic business Thinking conducted by the Maeil Business Newspaper. Lim (2017) argued that accounting education should be conducted based on real business management cases to teach accounting to the general public or as a liberal arts subject. As suggested by Lim, the MK Test of Economics & Strategic business Thinking has developed accounting questions based on real cases of companies. In the data used in this paper, the number of applicants for each test is more than 2,000, and the applicants have various ages, educational backgrounds, and majors, as shown in [Table 1] below. College students and job seekers accounted for the largest proportion by occupation, and those with a bachelor’s degree or higher accounted for about half in both tests by the level of education. Many applicants majored in humanities and social sciences and business administration.

Lee and Jin (2008) measured the education satisfaction and educational achievements of college students who took the accounting principles and found out that differences in years and gender of students and educational tools did not have a significant impact on statistics. Hong and Bae (2009) measured the academic achievement of accounting with the scores of respondents, and Lee et al. (2006) measured the same with the GPA of respondents, identifying the variables that affect accounting scores. Kim (2016) analyzed the variables affecting accounting knowledge by using the final score calculated from the combined results of the midterm and final exams as a dependent variable. The sample of applicants for the two tests in this study is more than 2,000, and Cronbach’s alpha for both is similar, around 0.8 for each. In addition, there is no significant difference in the distribution form of both, as can be seen from the descriptive statistical analysis results in [Table 2] below.

Table 1: Number of Applicants by Key Categories

Category		1st test	2nd test
Occupation	College student	602	655
	Job seeker	632	703
	Office worker	554	650
	Miscellaneous	396	423
Level of education	High school or lower	500	642
	Community college	715	786
	Bachelor's degree or higher	969	1,003
Major	Business	751	775
	Humanities and social science	736	868
	Science and engineering	379	442
	Miscellaneous	318	346
Sum		2184	2431

Table 2: Scores by Subject

Category	Subject	Average	Standard deviation	Minimum	Maximum
1st test	Accounting	52.5%	20.4%	0.0%	100.0%
	Business administration	55.3%	12.7%	0.0%	90.6%
	Economics	57.8%	15.8%	12.5%	100.0%
2nd test	Accounting	61.1%	19.4%	0.0%	100.0%
	Business administration	62.9%	12.9%	9.4%	100.0%
	Economics	56.9%	16.6%	15.0%	100.0%

While many previous studies on accounting education and achievement had limitations in that they only looked at those with a specific major or in a particular age group, this study has overcome such limitations to a certain degree. [Table 2] shows the average correct answer rate for each subject. The MK Test of Economics & Strategic business Thinking, used in this study to measure applicants' knowledge for each subject, consists of 40 questions from economics and 40 from business administration, and the latter included eight accounting questions. As seen in [Table 2], the average correct answer rate of the test was mid-50% to mid-60%, and the average correct answer rate in accounting was lower than that in business administration in both tests. In the first test, the average correct answer rate in the economic area was the highest at 57.8%, and the accounting correct answer rate was the lowest at 52.5%. On the other hand, in the second test, the average correct answer rate in the management area was the highest at 62.9%, and the average correct answer rate in the economy was the lowest at 56.9%. The standard deviation, which means the difference in test takers' grades, was the smallest in the management area in both tests, and the standard deviation in the accounting area showed the largest values at 20.4% and 19.4%.

[Table 3] below shows the proportion of occupation, level of education, and major of applicants, which are significant variables that affect their accounting scores. Job seekers and college students accounted for the highest proportion in the first and second tests, respectively. The proportion of job seekers and college students is similar, and the proportion of office workers is relatively small. By level of education, those with a bachelor's degree or

higher accounted for a high proportion, more than 40%. By major, the proportion of applicants who majored in the business was the largest in both tests, with 34% and 41%, respectively, but the number of applicants in the humanities and social sciences was similar.

Table 3: Proportion of Applicants by Key Categories

() Percentage of each group

Category		1st test	2nd test
Occupation	College student	602 (27.6%)	655 (26.9%)
	Job seeker	632 (28.9%)	703 (28.9%)
	Office worker	554 (25.4%)	650 (26.7%)
	Miscellaneous	396 (18.1%)	423 (17.4%)
Level of education	High school or lower	500 (22.9%)	642 (26.4%)
	Community college	715 (32.7%)	786 (32.3%)
	Bachelor's degree or higher	969 (44.4%)	1,003 (41.3%)
Major	Business	751 (34.4%)	775 (41.3%)
	Humanities and social science	736 (33.7%)	868 (31.9%)
	Science and engineering	379 (17.4%)	442 (18.2%)
	Miscellaneous	318 (14.6%)	346 (14.2%)
Sum		2184 (100%)	2431 (100%)

[Table 4] below shows accounting scores and correct answer rates according to occupation, level of education, and major of applicants. In the first test, job seekers and those with a bachelor's degree had the highest correct answer rates. By major, scores of business majors were the highest. In the second test, job seekers had the highest correct answer rates and those with a bachelor's degree had high correct answer rates as well. By major, correct answer rates of business majors were the highest, just like in the first test. In the first test, the average score of the employed group was the highest at 4.45, and the college student group had the lowest at 4.21. In the second test, college students and job seekers had similar average scores of 5, and the employed group had a relatively low score of 4.78. As for the accounting scores of test takers according to their academic background, the average scores of the two college students were the highest at 4.66 and 5.31. As for accounting scores by major, the average scores of applicants for commerce and business majors were 4.66 and 5.28, the highest in both rounds, and the average scores for humanities and social science majors were relatively low at 3.99 and 4.75.

Table 4: Accounting Scores of Applicants by Key Categories

() Correct answer rates of each group

		1st test		2nd test	
		Average	Standard deviation	Average	Standard deviation
Occupation	College student	4.21 (52.6%)	1.73 (21.6%)	5.01 (62.6%)	1.52 (19.0%)
	Job seeker	4.2 (52.5%)	1.58 (19.8%)	5.01 (62.6%)	1.54 (19.3%)
	Office worker	4.45 (55.6%)	1.61 (20.1%)	4.78 (59.8%)	1.61 (20.1%)
	Miscellaneous	3.86 (48.3%)	1.53 (19.1%)	4.66 (58.3%)	1.5 (18.8%)
Level of education	High school or lower	3.86 (48.3%)	1.54 (19.3%)	4.48 (56.0%)	1.59 (19.9%)
	Community college	3.82 (47.8%)	1.47 (18.4%)	4.69 (58.6%)	1.46 (18.3%)
	Bachelor's degree or higher	4.66 (58.3%)	1.67 (20.9%)	5.31 (66.4%)	1.5 (18.8%)
Major	Business	4.63 (57.9%)	1.67 (20.9%)	5.28 (66.0%)	1.48 (18.5%)
	Humanities and social science	3.99 (49.9%)	1.51 (18.9%)	4.75 (59.4%)	1.53 (19.1%)
	Science and engineering	4.17 (52.1%)	1.63 (20.4%)	4.76 (59.5%)	1.53 (19.1%)
	Miscellaneous	3.73 (46.6%)	1.56 (19.5%)	4.53 (56.6%)	1.62 (20.3%)

3.2. Regression Equation

The Equation (1) below is a core model of this study. With the accounting scores of the applicants as a dependent variable, it aims to estimate significant variables that affect accounting scores by using multiple regression analysis. In this model, the scores of the questions from business administration and economics were used as quantitative variables, as shown in Equation (1). The rest are dummy variables, and for the job seeker, office worker, and miscellaneous, except for college student, dummy variables were used to analyze the impact of occupation on accounting scores. To identify accounting scores according to the level of education, dummy variables were used for high school and community college categories, except for bachelor's degrees or higher. Also, the majors of applicants were classified into humanities and social science, science and engineering, and miscellaneous, and dummy variables were used accordingly to see how they affected their accounting scores. Lastly, in order to look for the effect of the study period on accounting scores, dummy variables were used for whether or not the applicants retook the test.

$$\begin{aligned}
 \text{Accounting score} = & \alpha + \beta_1 \text{Business administration score} + \beta_2 \text{Economics score} + \beta_3 \text{Job seeker} \\
 & + \beta_4 \text{Office worker} + \beta_5 \text{Miscellaneous} + \beta_6 \text{High school graduates} \\
 & + \beta_7 \text{Community college graduates} + \beta_8 \text{Humanities and social science} \\
 & + \beta_9 \text{Science and engineering} + \beta_{10} \text{Miscellaneous major} + \beta_{11} \text{Retake} + \varepsilon
 \end{aligned}
 \tag{1}$$

Business administration score: Business administration scores of excluding accounting scores

Economics score: Economics scores of test takers

Job seeker: Dummy variable meaning job seeker

- Office worker:** Dummy variable meaning Office worker
- Miscellaneous:** Dummy variable meaning Miscellaneous
- High school graduates:** Dummy variable meaning high school graduate
- Community college graduates:** Dummy variable indicates the level of education at college
- Humanities and social science:** Dummy variable representing humanities and social science majors
- Science and engineering:** Dummy variable representing Science and engineering majors
- Miscellaneous major:** Dummy variable representing Miscellaneous majors
- Retake:** Dummy variable meaning test takers who took the test more than once.

4. Results

[Table 5] below shows the results of multiple regression analysis based on the data mentioned above. In both the first and second tests, the results of regression analysis for individual variables were similar. First, both the scores from the business administration and the economics, which were estimated to affect accounting performance, were found to have a significant effect at the 1% significance level. In other words, applicants with background knowledge in business administration and economics had higher accounting scores. In terms of accounting scores according to occupation based on college students, office workers, and job seekers showed higher scores than college students on the first test, but on the second test, there was no significant difference in accounting scores according to occupation.

The model analysis of whether the level of education affects accounting performance showed that in the first test, the scores of both high school graduates and community college graduates were statistically significantly lower than those of college graduates at the 1% significance level. In the second test, the higher the level of education, the higher the accounting score at the 10% significance level. The results of analyzing the effect of occupation on accounting grades differed by round. This is presumably due to the small number of accounting items. Education was found to be significantly correlated with accounting grades. In both rounds, it was found that high school graduates and respondents who had not yet completed college had lower accounting grades than college graduates.

The results of the analysis of the relationship between major and accounting scores showed that the scores of all humanities and social sciences, science and engineering, and other majors were lower than those who majored in business. In other words, the difference in scores between applicants who majored in business and those who did not was found to be significant in accounting questions compared to economic and business administration questions. In particular, in the case of the first test, all major variables were found to be significant at the significance level of 1%. On the other hand, as a result of analyzing the second test, the difference in accounting grades by major decreased slightly to 5% or 10%. In addition, the more the applicants retake the test, the longer the test study period, the better the accounting scores were in statistics. This suggests that accounting questions require more time to study than other subjects.

Table 5: Results of multiple regression analysis to identify factors that affect accounting score

	Model 1	Model 2
score_B	0.040*** (0.010)	0.104*** (0.009)
score_E	0.063*** (0.007)	0.065*** (0.006)
dum_job1	0.172** (0.086)	0.113 (0.074)
dum_job2	0.557*** (0.089)	-0.026 (0.073)
dum_job3	0.209** (0.103)	0.125 (0.088)
dum_edu_high	-0.332*** (0.091)	-0.275*** (0.075)

dum_edu_college	-0.431***	-0.120*
	(0.080)	(0.068)
dum_major_hum	-0.461***	-0.123*
	(0.078)	(0.067)
dum_major_engeen	-0.337***	-0.152*
	(0.095)	(0.080)
dum_major_etc	-0.493***	-0.222**
	(0.103)	(0.087)
dum_retake	-0.238***	-0.114**
	(0.065)	(0.055)
Constant	2.416***	1.533***
	(0.190)	(0.163)
Observations	2,184	2,431
Adjusted R-squared	0.187	0.299

5. Conclusion

With the fast-advancing ICT industry, the natural economy is changing at an accelerating pace. Such an environment made it much more important for companies to utilize financial indicators and make appropriate financial decision-making. In addition, as an individual investment in financial products such as securities and ETF increases, individual investors are also required to have the ability to interpret basic accounting information. Thus, this study can be used as important data in improving the education system of accounting and business in the future, as it identifies factors that affect the understanding of individuals on accounting knowledge and analyzes accounting scores according to their characteristics.

This study analyzed the results of the MK Test of Economic & Strategic business Thinking conducted by the Maeil Business Newspaper through the second round of tests. The model of this study was composed of factors like scores in economics and business administration, the level of education, occupation, and major, which affect the accounting scores of applicants. Analysis showed that both scores in economics and business had a statistically significant effect on accounting scores. In other words, applicants with background knowledge in business administration and economics had higher accounting scores, suggesting that background knowledge can increase learning efficiency when studying accounting. Furthermore, analysis of the effect of the level of education on accounting scores showed that scores of those with a bachelor's degree or higher were significantly higher than those of high school and community college graduates. Particularly interesting was that there was no significant difference between applicants in economics and business administration scores, but a significant difference was found at the 1% level in multiple regression model analysis. This suggests that business administration and economics knowledge may help applicants understand questions from accounting, unlike questions from other subjects. By occupation, office workers and job seekers had higher scores than college students. In the first test, in particular, the accounting scores of office workers were found to be significantly higher than that of college students in statistics. While college students had higher scores in general economics and business administration, the accounting scores of office workers who might have experienced accounting in practice were higher than that of students. This proves that ideas and terms needed to solve accounting questions are not easily accessible in textbooks or schools, and applicants are acquiring them in practice.

The results of this study suggest several implications in lecturing accounting as a basic or principle. Acquiring basic knowledge in economics and business administration was found to play an important role in understanding accounting ideas, indicating that such activities would be helpful when lecturing on accounting. Thus, the efficiency of accounting lectures is expected to increase if lecturers briefly teach basic economics or business administration before or during teaching accounting. In addition, the fact that office workers had higher accounting scores than college students or job seekers implies that practical work experience significantly affects the understanding of accounting ideas. Conducting accounting lectures based on universal corporate cases that learners can understand will also be a major way to improve accounting achievement.

This study analyzed various factors affecting accounting performance by measuring the understanding of accounting for applicants in multiple occupations, levels of education, and majors, unlike previous studies. However, the number of accounting questions used as a dependent variable was limited to eight questions, limiting the expansion of the analysis results. It is expected that more meaningful results will be derived if test results that measure similar accounting skills based on more questions in tests other than state-approved tests are studied. In particular, there was a difference in the results of the first and second tests in the effect of occupation and major on accounting grades. Therefore, further analysis of the results is required to verify consistent effects on these variables.

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