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Economic literacy among tertiary students in Ghana: Evidence from University of Cape Coast

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Abstract

Economic literacy measures the extent to which people can appreciate the forces that significantly influence the quality of their lives. Economically literate citizens may be able to make rational choices, understand and even form opinions on policies, and are likely to feel completely part of any public debate about the economy of a country. There have not been many studies on economic literacy, especially at the tertiary level in Ghana. It is in light of this that this paper seeks to investigate the factors influencing economic literacy among undergraduate students in the University of Cape Coast, Ghana. The study addresses two research questions: 1) What is the level of economic literacy among tertiary students in Ghana? and 2) What factors influence undergraduate students' understanding of economic issues?

The study employed a regression model on data collected from a sample survey of 1,366 undergraduate students in the University of Cape Coast. The results indicate that economic literacy is positively influenced by the level of the tertiary student, their SHS elective courses taken, their Cumulative Grade Point Average, interest in politics, and attendance of business/ economics conferences. The study recommends that the fundamentals of economics could be introduced into the Social Studies discipline at the SHS so that all students benefit from this knowledge. The youth must be encouraged to be involved in business and politics, while Colleges and Universities should make business/economic seminars part of their curriculum.

Keywords

Economic literacy, transaction cognition theory, tertiary students, Ghana

Introduction

The study of economics is about appreciating choices and making trade-offs among limited resources (Dahl, 1998). According to Buchholz (1998), economics is about finding jobs, surviving a recession, dealing

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Jacob Nunoo and Benedict Afful Jr., Department of Economics, University of Cape Coast, Cape Coast Email: benedictaffuljr@ucc.edu.gh / jacob.nunoo @ucc.edu.gh with the general raise in prices (inflation), preparing and saving for retirement, and investing in a mutual fund or participating in the stock market.

These issues are indeed real life issues and have an effect on everyone (employed, unemployed, consumers, producers, savers, creditors, borrowers) in an economy. As regards the depth and breadth of economics as a discipline of study, one can conclude that everybody is expected to have some basic knowledge of economics.

Economic literacy is therefore crucial since it is a measure to which people can appreciate the forces that significantly influence the quality of their lives (Farrell, 1999). In the view of McKenzie (1970), citizens are likely to cast votes in the complex modern society intelligently if they have and appreciate basic economic principles.

Economic illiterate citizens may not be able to understand, discuss or even form opinions on policies, and are more likely to feel completely left out of any public debate about the economy.

Economic literacy is therefore very important in the life of citizens and their countries as a whole. According to Gupta (2006), acquiring economic literacy is important because citizens may hold politicians accountable, thereby guaranteeing an effective democratic system; the same is true for business managers in order to attain effective organizational outcomes and compete in the multifaceted global markets.

This has led to increasing attention or studies in economic literacy. Most of the studies on economic literacy have been conducted in the US and a few in India (Mae, 2009 & Koshal, Gupta, Goyal & Choudhary, 2008). However, little is known about the economic literacy in Africa except of South Africa.

The importance of education in Ghana was realized soon after independence and several reforms have taken place to deepen the educational experience. However, none of these reforms focused on economic literacy. For each country and educational system, the importance of economic literacy is tied to educating the youth to be capable of understanding, thinking and acting according to basic economic principles.

At the senior high school level, Economics is taught as an elective subject for students in the General Arts, Business, and other programmes. This may not be a serious problem to the country because individuals still have the opportunity to have some fundamental knowledge in economics in other academic contexts. Unfortunately, at the university, only a few students have the opportunity to read Economics.

This has resulted in the youth not becoming adequately literate in economic issues to be able to contribute to national debates on them. Stigler (1970) argues in favour of giving a worldwide coverage to economic literacy because it fits into two criteria. First, its vocabulary or logic is part of the knowledge that is prevalent in communication and social relationship and second, economics is regularly needed but not subject to economical purchase from experts.

This study therefore seeks to investigate the level of economic literacy of tertiary students in Ghana, with special emphasis on undergraduate students of the University of Cape Coast. The study addresses two research questions: 1) What is the level of economic literacy among the tertiary students in University Cape Coast? and 2) What factors influence an undergraduate student's knowledge of basic economic issues? These questions are important because these tertiary students are the future political and business leaders who need to understand fundamental economic concepts in order tobecome productive citizens of the country.

There is substantial literature on the determinants of economic literacy. In the orthodox determinants of economic literacy literature, factors identified include experience, economic knowledge from high school, learning economics after high school, education, and sex. Gable (1971) and Barlow and Kaufman (1975) found that top-managers in the U.S., had better understanding of economic concepts than lower-level managers.

For that reason, it appears that experience has a positive influence on economic literacy. Taking a course in economics appears to have mixed results with respect to economic literacy. Gleason and van Scyoc (1995), for example, found that adults in the U.S., who took course in economics in high school, scored statistically the same as adults who had no economics education in high school.

But Walstad and Allgood (1999) and Walstad and Rebeck (2001) argued that students that completed a separate course in highschool economics did show better knowledge of economics than those that did not. Caplan (2001) found that "the more educated individuals are, the more inclined they are to agree with the economic beliefs of professional economists."

Christiansen, Schroter and Rangvid (2008) used a large panel data set containing detailed information on Danish investors' educational attainment as well as financial and socioeconomic variables to study stockholdings. They showed that stockholdings increase if individuals had completed an economic education programme and if an economist moves into the household.

Caplan (2001) also found that males were generally more economically literate than females. The average man normally finds politics and economics more inherently exciting than the average woman. Cole, Sampson and Zia (2009) analyzed the relation between economic literacy and participation in formal financial markets in the context of developing countries. Using survey data on India and Indonesia, they showed that economic literacy is a dominant predictor of demand for financial services.

It is interesting to note that the empirical evidence on economic literacy as discussed above, is derived from developed or emerging economies. In Ghana, the closest empirical evidence was in financial literacy. This makes it very difficult to talk about the factors influencing economic literacy in Ghana. Our work therefore fills this gap and also provide help for policy makers to inform decisions that address issues on economic literacy in Ghana and other developing countries.

Theoretical Framework

The transaction cognition theory (TCT) offers a general theoretical model of literacy (Mitchell, 2001; Mitchell & Morse, 2002) that can be readily applied to the issues of economic literacy. The theory is an analytical framework that explores the relationship between people's thinking and their capability to transact business successfully. TCT asserts that there are three sets of cognitions that work mutually to create a successsful transaction (planning cognitions; promise cognitions; and competition cognitions). According to previous researches (Arthur, 1994; Neisser, 1967; Read, 1987), each of these transaction cognitions consists of specialized mental models or scripts that guide individuals' responses to market opportunity.

Mitchell (2001) claims that where planning, promise and competition thinking skills (cognitions) are sufficient, the difficulty of transacting is reduced, and economic development happens. This can be achieved through continuous education at all levels.

Identifying and teaching these three universal subsets of knowledge form the creative forces that are at the foundation of global economic literacy to be economic conscious (Arrow, 1972). As applied to economic literacy, TCT proposes that those who possess these three universal subsets of knowledge are more economically literate, and are therefore more able to enact successful new transactions, regardless of culture or political system (Mitchell, 2003). To date, there is no study that has tested the TCT in the domain of tertiary students in Ghana. The present study therefore seeks to test the TCT in the domain of tertiary students in Ghana.

Methodology

Data

Data for the study were obtained through a survey of undergraduate students in the University of Cape Coast. The targeted population for the study comprised 14,675 students of the 2011/2012 academic year from all the Faculties/Schools in the University of Cape Coast.

The study adopted stratified random sampling technique to select 1,468 (10%) out of 14,675 undergraduate students of the university. The sampling was done according to programmes and levels of study. The data for

Faculty/School	No. of	Selected		Level		
	Students	Students	100	200	300	400
Agriculture	462	46	12	11	11	12
Arts	1,269	127	32	31	32	32
Education	4,920	492	123	123	123	123
Biological Sciences	1,601	160	40	40	40	40
Physical Sciences	1,949	195	48	49	49	49
Medical Sciences	236	24	6	6	6	6
Social sciences	2,265	227	57	57	57	56
Business	1,973	197	49	50	49	49
Total	14,675	1,468	367	367	367	367

Table 1: Distribution of Students Sampled for the Study

Source: Students' Records and Management Unit (UCC), 2013

the Faculties/Schools were obtained from the Students' Records and Management Unit of the University of Cape Coast for the 2011/2012 academic year. The distribution of the students selected for the study is shown in Table 1.

Data collection procedure

In order to achieve the objectives of the study, economic literacy of the tertiary students was measured by conducting a Test for Economic Literacy (TEL). The purpose of the TEL was to determine the extent of cognitive knowledge of the tertiary students in economics. In all, the test constituted 5 fillin questions and 15 multiple-choice questions. Ten questions were macroeconomics questions on the Economy of Ghana and ten questions were on general economics.

The survey instrument also requested bio-data, programme, level, background in economics, source of economic information, academic performance (CGPA), work experience, and political interest of the respondent. The purpose of these other information was to provide data for comparing the economic literacy of students on the various programmes.

To ensure content validity of the instrument used in the survey, the researchers invited an expert in the Economy of Ghana to help structure the questions to suit the current state of the economy. The following steps were taken into account to ensure that reliability was enhanced.

First, to ensure representativeness, the sample included students from all programmes. The stratified simple random sampling method helped to reduce errors and biases. The questionnaire was pre-tested in the Cape Coast Polytechnic. This pre-test gave us opportunity to re-organize and improve the wording in the questionnaire for better understanding and reduce ambiguity.

The data were collected in May 2012 when the students were about to write their end of second semester examination. The questionnaires were administered during lectures. In all, 1,468 questionnaires were administered to the selected students but 1,396 were completed and returned. After scrutinizing the returned questionnaires carefully, only 1,366 were filled properly and were utilized in the analysis.

Empirical Model

To study the factors that influence undergraduate students' economic literacy scores, we employed a linear regression model. We hypothesised that student's economic literacy (ELS) is a function of age (AGE), programme of study includes economics or business (PROG), level in the university (LEV), SHS elective (ECO), conference attendance (BCON), interest in national politics (POL), work experience (EXP), and cumulative grade point average (CGPA). The relationship may be stated as:

ELS=f (AGE, GEN, PROG, LEV, ECO, BCON, POL, EXP, CGPA) (1)

Specifically, we assume that the relationship is linear in nature and may be written as follows: $ELS=a+b_1AGE+b_2PROG+b_3LEV+b_4ECO$ $+b_5BCON+b_6POL+b_7EXP+b_8CGPA+$ (2)

Dependent variable

Economic literacy: This is a variable built

on the individual is (student) assessment of working knowledge of the concepts and language of economic activity and economic policy. There are two major instruments that can be used to measure economic literacy of an individual.

These instruments were developed by the Joint Council on Economic Education which developed the Test of Economic Literacy with 40 questions and the National Council on Economic Education's Standards in Economic Survey which has 20 questions. These instruments have been used extensively by researchers (Gleason & Van Scyoc, 1995; Wood & Doyle, 2002; Koshal, Gupta, Goyal & Choudhary, 2008). In this study, both instruments were combined and 20 questions were developed (see Appendix A). Economic literacy was therefore measured as the percentage score of correct answers.

Explanatory variables

Table 2 presents the list of variables used in the regressions designed to explain the factors that influence the economic literacy among undergraduate students in Ghana.

Estimation Technique

The dependent variables are quantitative in nature, hence there is no estimation problems associated with the use of the standard regression technique. Applying Ordinary Least Squares (OLS) to a quantitative dependent variable results in consistent standard error estimates, efficient estimates, and the test of significance for estimated coefficient is applicable, allowing for precise predictions. Using the study data, multiple linear

Table 2: Measurement of Variables for Economic Literacy

Variables	Measurement	Expected	
		aprior	
Age (AGE)	=Actual age of respondent in years	+	
Programme (PROG)	=1, if the programme includes business or	+	
	economics component; =0, if otherwise		
Level (LEV)	=Actual years of study in the university	+	
SHS elective (ECO)	=1, if SHS elective includes economics; =0, if	+	
	otherwise		
Conference (BCON)	=1, if economic or business related; =0, if	+	
	otherwise		
Politics (POL)	=1, if respondent is interested in politics, =0, if	+	
	otherwise		
Work Experience (EXP)	=Number of years worked	+	
Cumulative Grade Point	=Actual grade point average reported by the student	+	
Average (CGPA)	Student		

regression parameters in the model were estimated. The marginal rate of economics literacy score with regard to the explanatory variables was also estimated for stimulation. The log-likelihood ratio was used to find out the goodness of fit of the model.

Results and Discussion

Variables Percentage Frequency Male 882 64.6 Gender Female 484 35.4 SHS Economics as an elective 639 46.8 Have or had ever had economics in UCC 700 51.2 631 46.2 Work experience 12.3 Interest in 168 Student politics 817 59.8 politics Attached to a political party 793 58.1 Conference/seminar on business or economics 54.3 Source of 742 TV and Radio information 223 16.3 Internet 12.1 Papers and Magazines 165 17.3 236 Others

Descriptive statistics of the study

Source: Authors, 2013

From Table 3, 882 of the respondents were males (64.6 percent) and 484 were females (35.4 percent). Those who had economics as one of their elective subjects in SHS totaled 639 (46.8 percent) and those who did not summed up to 721 (52.8 percent).

student politics and the remaining 817 are seriously attached to a political party. It was found that 793 (58.1 percent) respondents had never attended a conference or a seminar on any business or economics related topics. Given that the majority of the respondents

From the 1,366 responses received, those who have or had ever had economics as one of their subjects at the university totaled 700 (51.2 percent) and those without economics were 666 (48.8 percent). Six hundred and thirty-one (46.2 percent) of the respondents had work experience while 985 (72.1 percent) were interested in politics. One hundred and sixty eight engage in had no work experience (many enter the university from high school) and had not attended any economics or business related seminar, it was important to find out the sources of economics information to the respondents.

A majority of the respondents got their economic information from television and radio (54.3 percent), with the internet being the next highest (16.3 percent) and newspapers or magazines being the least (12.1 percent). This clearly shows that the reading habit of the youth is poor.

The majority of the youth today prefer to watch television or listen to news rather than read for themselves. However, it was found that the sample was made up of good students with an average CGPA of 3.00 (second class upper division) with standard deviation of 0.63.

Economic literacy test

Each respondent was scored using 20 literacy questions on economics. Ten out of the 20 questions centered on the Economy of Ghana. Of this, five of the questions were fill-in in nature while the other five were multiple-choice questions. The remaining 10 questions dwelt on general economics questions. Table 4 provides the summary results on the two categories of questions used in the survey. Sample questions are attached in Appendix A.

From Table 4, we see that the mean, median and mode of the correct answers of the general questions on economics were far higher than that of questions on the Economy of Ghana. The respondents were able to answer questions on general economics better than those on their own country.

	Economy of Ghana			General Economics			Economic literacy (total answers)	
	Correct	Wrong	Don't	Correct	Wrong	Don't	Correct answers	
	answer	answer	know	answer	answer	know		
Mean	3.27	3.82	2.87	6.27	2.40	1.35	9.53	
Median	3.00	4.00	3.00	7.00	2.00	1.00	10.00	
Mode	3	3	3	8	2	0	12	
Std. Deviation	1.62	1.68	1.99	2.39	1.71	1.89	3.31	
Siu. Deviation	1.02	1.00	1.99	2.37	1./1	1.07	5.51	

Source: Authors, 2013

In the case of the Economy of Ghana category, 1,093 (80 percent) out of the 1,366 respondents scored below average (0 - 4correct answers), with 154 respondents (11.3 percent) scoring average (5 correct answers) and the remaining 119 respondents (8.7 percent) scoring above average (6 - 10 correct answers).

In the general economics segment, 326 respondents (23.9 percent) scored below average (0 – 4 correct answers), with 169 respondents (12.4 percent) scoring average (5 correct answers) and the remaining 871 respondents (63.7 percent) scoring above average (6 – 10 correct answers).

Individual tertiary students do better in general economics (theories or principles) than on the Economy of Ghana. On the score of the economic literacy, the mean was 9.53 with a standard deviation of roughly 3 correct responses. The economic literacy score is the summation of the correct answers respondents had in the two sections-general economics and the economy of Ghana.

It was found that 651 respondents (47.7 percent) scored below average (0-9 correct answers), with the remaining 715 respondents (52.3 percent) scoring above average (10 - 20 correct answers). More than 50 percent of tertiary students were thus economic literate. To be able to ascertain what really accounts for this, regression analysis was carried out on the data.

Regression analysis

This section presents the estimated results.

Variable	Coefficient	Std. Deviation	t-ratio	Sig.	
Age	0.12	0.18	0.69	0.49	
Programme of study with	-0.04	0.03	-1.39	0.17	
economics or business					
Level	2.02***	0.51	3.96	0.00	
SHS Elective	10.75***	1.25	8.64	0.00	
Business/Economic Conference	3.14***	1.01	3.10	0.00	
Politics	1.33***	0.27	4.87	0.00	
Work Experience	-0.20	1.20	-0.18	0.86	
Cum. Grade Point Average	1.86**	0.81	2.29	0.02	
(CGPA)					
Constant	27.68***	5.02	5.52	0.00	
Number of observations	1,366				
R-squared	0.28				
F	16.82				
	(0.006)				

Table 5: Estimated Results

Table 5 presents the estimates of regression parameters with their respective t-values. The results in Table 5 suggest that economic literacy is positively influenced by the level of tertiary students, SHS electives (economics), CGPA, interest in politics, and their attendance to business/economics conferences.

The estimated parameters of these variables are positive and statistically significant at 1 percent (with the exception of CGPA which is significant at 5 percent). Age, programme of study with economics or business, and work experience, on the other hand, had no statistical significance on economic literacy.

The non-significance of these variables indicate that age, programme of study with economics or business, and work experience do not explain economic literacy among tertiary students in Ghana. Age and work experience may not be significant because many of the students are admitted into the tertiary institutions from the senior secondary school system and are mostly very young.

They gain admission straight from school with no work experience. Again, the volunteering spirit that gives young ones experience in the advance economies is absent in Ghana. Internship programs are also not very encouraged by companies because they have a large pool of unemployed graduates to choose from.

The positive coefficient of the level of tertiary student indicates that the higher the level of study of the student, the higher his/ her economic literacy. The coefficient of the level of tertiary student, which measures the effect of the duration of stay in the tertiary institution, was 2.02.

This means that if the student stays in the

university for one additional year, s/he will score 2.02 more in economic literacy test. In reality, a tertiary student would generally want to know more about the job market as well as the business world before graduating from university. This leads many to start reading about the economic condition in the country and attending seminars to enhance their employability after school. This is irrespective of the programme of study.

Test scores of tertiary students who had not taken any course in economics at SHS were statistically different from those who had high school course in economics. The coefficient of this variable was 10.75 and was statistically different from zero. This means that an individual who had taken SHS economics will score 10.75 more in economic literacy than those who did not take SHS economics.

The economics taught in high school is the fundamentals of economics with a course in principles of economics. In the works of Wood and Doyle (2002), Walstad and Rebeck (2001) and Gleason and van Scyoc (1995) a similar result was found for adults who had studied economics in high school in the United States of America.

Furthermore, the coefficient of attendance of business/economic conferences was 3.14. This means that one more business/economics conferences attended enhances the individual's ability to score 3.14 more in economic literacy test. Many of these business/ economic conferences involve job scouts and job fairs. Students get to be acquainted with what employers require of them and are challenged to be knowledgeable on issues about the economy and the world of work.

Our study found that people who are

interested in politics scored 1.33 points higher than those who are not. People who have much interest in politics usually are also interested in economics because they are always engaged in discussions and also try to convince people to support their political party.

It is therefore not surprising that interest in politics is significant. This means that as people become more interested in politics, the more economic literate they become. This is in line with Caplan (2001) and Gupta's (2006) study which found that the higher a person's interest in politics the higher the level of their economic literacy in the United States of America.

From the analysis, students who had high CGPA scored higher marks in the test irrespective of their SHS background. The coefficient of 1.86 tells us that as a person's CGPA increases by unit, that person's economic literacy test score will increase by 1.86 marks.

The underlining reason is that good students are always in search of new information regarding their academic work and future success which is more related to economics. Our findings is in line with Tabesh and Schultz (2007) who discovered that the higher the GPA of a student the higher the economic literacy test score in high school in the United States of America.

Conclusions

This study investigated the level of economic literacy of tertiary students in Ghana, with special emphasis on undergraduate students of the University of Cape Coast. It shows that in spite of the high academic standard of the respondents, more than 50 percent of the respondents (tertiary students) economic literacy is above average.

It was revealed that years of schooling, reading economics as an elective course in SHS, a student's CGPA, interest in politics, and the number of business/economics conferences attended by an individual significantly impact on the level of that individual's economic literacy. This means that the higher the level of these variables, the more economic literate the individual is.

Based on the findings of the study, we recommend that fundamentals of economics could be introduced into the Social Studies discipline at the Senior High School (SHS) as well as the liberal courses at the university level because the major role they play in the individual's life. This is because economics as a discipline of study is part of the knowledge that permeates communication and social relationships. Moreover, many terminologies of economics have become part of everyday language.

Student wings of political parties and the Students Representative Council (SRC) on the various university campuses could make economic issues as part of their seminars and workshops especially during their week celebrations. This will help expose students to important national policies and development agenda.

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