Economic literacy of introductory economic students in South Africa: Is it on track?

Alicia Fourie and Waldo Krugell

Paper submitted for the Biennial Conference of the Economic Society of Southern Africa, University Cape Town, Cape Town, South Africa
2 - 4 September 2015

Abstract

Economic events and economic issues are major concerns worldwide. Leading economies are facing debt crises, recessions and downturns in economic growth. Consumers are confronted daily with increasing food prices, a fluctuating oil price, unemployment and low wages, but despite the attention that has been given to economics in the recent years, economists have found that the public is unfamiliar with economics and basic economic concepts. But how do economists know what student's economic literacy are? One way to test for economic literacy in South Africa is by means of the Test of Understanding Economics in South Africa (TUESA). The TUESA was used as a pre-test, testing the economic literacy of introductory economic students at three tertiary institutions in South Africa before any form of instruction took place, and as a post-test determining the economic literacy of introductory economic students after a year's worth of economic instruction. Results indicated that there are significant differences between the economic literacy scores between gender, race, majors and students who had been enrolled for Gr12 economics in high school. Results from cross tabulations and logistic regression indicated that students who were enrolled for Gr12 economics in high school have a better chance in passing the TUESA than students who were not enrolled for economics in high school. The overall economic literacy levels after a years' worth of introductory economic tells a different story from the pre-test economic literacy levels but the overall literacy levels seems acceptable.

Key words: Economic Literacy, TUESA, Introductory Economics, South Africa

1. Introduction

Everyone, everywhere, is part of the economy. People earn, spend and save in the economy, some invest and others export. All of us are influenced by global financial markets, local competition and government intervention in the market. In a similar way, as we are subject to the laws of physics, we are all bound by economics, without understanding too much of it. Nonetheless, a little economic literacy can go a long way to improve people's choices. An understanding of the basic ideas of scarcity, choice, opportunity cost, specialisation and trade, or decision-making at the margin can make a difference to one's wellbeing.

Universities are considered to be the backbone of tertiary education M.Pikington and G. Nair (2013), therefore, Economics teachers and lecturers need to first measure economic literacy before they prescribe the reading. In the United States, the National Council of Economic Education (NCEE) has developed the Test of Understanding College Economics (TUCE) to test the economic literacy levels of students enrolled for Introductory Economics courses. This paper reports the results of a similar test for the South African context – The Test of Understanding Economics in South Africa (TUESA).

The paper is structured as follows: section 2 provides an overview of the current literature on the definition of economic literacy as well as the measures used to test it. Section 3 presents the data collected during a first and second round of testing among students at South African universities. Conclusions are presented in section 4.

2. Literature overview

Economics education is a field within economics that focuses on the scholarship of teaching and learning economics (W.E Becker: 2001). Research into economics education comprises an analysis of issues such as the current state of the Economics curriculum and efforts to improve the material and instructional techniques used to teach Economics at all levels. It also involves research into the level of economic literacy of various groups and the factors that influence it (W.E Becker: 2001).

In the international literature, economic literacy has been widely researched. It is sometimes confused with financial literacy, but economic literacy is, in fact, a much broader concept. Financial literacy is all about money: what it is and how to invest, save and manage money. Economic literacy, on the other hand, is the ability to apply basic economic concepts to everyday life scenarios (Selemi, 2005:46). Basic economic concepts are, for example, those concepts that are outlined in the *Voluntary National Content Standards in Economics* and the *Framework of Teaching Basic Economic Concepts* developed by the NCEE. These documents outline important basic economic concepts and make suggestions on how to teach these concepts.

The objective is to enable students to understand enough about economics to make reasoned judgements about economic questions (Saunders and Gilliard, 2000:3). Four main categories of concepts are identified, which include fundamental economic concepts, micro-economic concepts, macro-economic concepts and international economic concepts (Saunders and Gilliard, 2000:10).

The document *Voluntary National Content Standards in Economics* was published in 1997 and the standards are generalisations of basic economic principles and are the fundamental propositions of economics (Siegfried and

Meszaros, 1997:247). There are twenty standards and each standard is accompanied by a rationale for its inclusion. Here, a further breakdown of the basic concepts is provided and these include scarcity, decision-making, allocation, incentives, trade, specialisation, markets and prices, the role of prices, competition and market structure, institutions, money and inflation, interest rates, income, entrepreneurship, economic growth, the role of the government and market failure, government failure, economic fluctuations, unemployment and inflation, and fiscal and monetary policy.

In the US, knowledge of these basic economic concepts is supposed to be taught to students in high school. At university or college level, in the Introductory Economics course, lecturers are supposed to teach students how to apply these basic concepts in order to improve their economic literacy levels (Selemi, 2005:46).

Institutions in the US are on the forefront of testing economic literacy levels. The National Council on Economic Education has several tests, which include:

- the Basic Economics Test, which is used for upper-grade levels of elementary school;
- the Test of Economic Knowledge, which is used for middle schools and lower-grade high schools;
- the Test of Economic Literacy, which used in upper-grade levels of high school; and
- the Test of Understanding in College Economics (TUCE), which is used for undergraduate level, primarily targeting introductory or principle level coursework in economics.

With regards to South Africa, the only recorded test for economic literacy is the TUESA (Fourie & Krugell, 2015). The development of the TUESA started in November 2012, drawing on the TUCE. Questions were selected, edited and rewritten for the South African context. A first draft of the new questionnaire was completed in July 2013 and sent out for review and inputs from the staff of the School of Economics at the North-West University's Potchefstroom Campus (Fourie & Krugell, 2015). The comments and suggestions from the School of Economcics were incorporated into a second draft of the test that was presented at the Biennial Conference of the Economic Society of South Africa, held at the University of the Free State in September 2013. Participants at the conference made a number of inputs (Fourie & Krugell, 2015). The second draft of the TUESA was also sent to staff members of Economics departments across South Africa, who indicated at the conference that they would provide an additional round of inputs. Based on all this feedback, a third draft of the TUESA was completed. This third draft of the TUESA was tested in a pilot study at the Potchefstroom Campus at the end of October 2013. The results obtained from the pilot study were used as inputs into a fourth version of the questionnaire (Fourie & Krugell, 2015).

The fourth version of the TUESA consisted out of 35 questions. From the 35 questions, 20 questions were microeconomic questions and specifically questions on: basic economic problem (scarcity, opportunity cost and production factors), demand, supply and elasticity, consumer theory, and theory of production. Furthermore, from the 35 questions, 15 questions were macroeconomic questions focusing on: measuring economic performance through GDP, inflation and unemployment, monetary and fiscal policy, and international economics (why countries trade and balance of payments).

3. Data and results

In February 2014, the TUESA test of economic literacy was distributed to 2 717 Introductory Economics students at three South African universities (Rhodes, NMMU and NWU *Potchefstroom and Mafikeng campus*). The test was undertaken at the beginning of the academic year when classes stared, before any instruction could take place. Students were requested to complete the questionnaire in class on multiple-choice cards and participation was voluntary. Therefore, the sample consists of those students who were in attendance and who chose to complete the questionnaire on the day it was distributed.

The TUESA questionnaire was again distributed in October 2014 to 1 560 students at the same three universities in South Africa. From the 1 560 post-test cases, 1 085 cases were matched with the pre-test sample and student information. The TUESA questionnaire was administrated as a post-test, testing the economic literacy levels of introductory economics students after having received a year's economic instruction.

The overall results of the pre-test indicated an economic literacy score of 50.99 per cent, with a microeconomic literacy score of 46.38 per cent and a macroeconomic literacy score of 55.61 per cent.

The results further indicated that there is a significant difference in the economic literacy scores between gender, race, course majors, and having enrolled for Gr12 economics in high school. Results further indicated that students who had been enrolled for Gr12 economics in high school have a better chance of passing the TUESA than students who had not been enrolled for economics in high school.

Furthermore, the overall results of the post-test indicated an economic literacy score of 60.63 per cent, with a microeconomic literacy score of 58.79 per cent and a macroeconomic literacy score of 62.47 per cent.

It was established that there is a significant difference in the students' pre-test TUESA scores and post-test TUESA scores. The *Eta Squared* value was calculated and it can be concluded that there was a large effect with a substantial difference in the TUESA test scores before and after studying a one-year introductory-level Economics course.

On the other hand... how much do you think students should know about economics after a year's worth of economic instruction? Let me know by following the link: **http://tinyurl.com/TUESA**

4. Conclusion

The primary aim of this paper was to determine the economic literacy levels of introductory economic students in the beginning of the year without any tertiary economic knowledge and at the end of the year after a year's worth of tertiary economic instruction. To test the economic literacy, the TUESA that was developed in 2012-2013 was used as a pre-test and a post-test. From the results it seems that student' s economic literacy levels improved substantially having an average economic literacy rate of 60.63% after a year's worth of economic instruction.

References

Becker, W.E. (2001) 'Economic education', in N.J. Smelser and P.B. Baltes (Eds.): *International Encyclopedia of the Social and Behavioural Sciences*, pp.4078–4084.

Brasfield, D.W., Harrison, D.E. and Mccoy, J.P. (1993) 'The impact of high school economics on the college principles of economics course', *The Journal of Economic Education*, Spring, Vol. 24, No. 2, pp.99–111.

Chanis, S., Tsamadias, C. and Hadjidema, S. (2013) 'The rate of return of social investment on post-secondary initial vocational education and training in Greece', *International Journal of Education Economics and Development*, Vol. 4, No. 1, pp.57–71.

Fourie, A and Krugell W. 2015. Determining the economic literacy of introductory economic students in South Africa. *International journal of economic education and development*. 6(1):2015.

Palmer, J., Carliner, G. and Romer, T. (1979) 'Does high school economics help?', *The Journal of\ Economic Education*, Vol. 10, No. 2, pp.58–61.

Pilkington, M. and Nair, G. (2013) 'Global trends in higher education: an unexpected convergence between France and India', *International Journal of Education Economics and Development*, Vol. 4, No. 1, pp.1–19.

Reid, R. (1983) 'A note on the environment as a factor affecting student performance in principles of economics', *The Journal of Economic Education*, Vol. 14, No. 4, pp.18–22.

Salemi, M.K. (2005) 'Teaching economic literacy: why, what and how', *International Review of Economics Education*, Vol. 4, No. 2, pp.46–57.

Saunders, P. and Gilliard, J. (1995) *A Framework for Teaching Basic Economic Concepts, with Scope and Sequence Guidelines*, K-12, National Council Economic Education, New York.

Siegfried, J.J. and Meszaros, B.T. (1997) 'National voluntary content standards for precollege economics education', *American Economic Review*, Vol. 87, No. 2, pp.247–53.

Walstad, W.B., Watts, M. and Rebeck, K. (2007) *Test of Understanding of College Economics: Examiner's Manual*, 4th ed., National Council on Economic Education, New York.