

FINANCIAL LITERACY OF UNDERGRADUATE STUDENTS – A CASE STUDY OF A PUBLIC UNIVERSITY IN SOUTH AFRICA

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—Abstract—

Low financial literacy levels of students are receiving worldwide attention due to the impact it has on financial decision-making during the adult years. In line with this international trend on low financial literacy, South African students demonstrate low levels of financial literacy, which is of great concern if one takes into consideration that they are the future participants of an economy that is on the verge of a recession.

Therefore, the aim of this study was to determine undergraduate students' financial literacy at a public university in South Africa. A cross-sectional study was conducted of a sample of 300 undergraduate students.

The findings of the study enabled a more in-depth understanding of the financial literacy of undergraduate students, which holds important implications for financial literacy training. The participants' knowledge regarding the issues relating to general financial literacy was observed to be low. They also performed poorly in terms of banking and taxation and financial planning, interest rates and general inflation. It was also reported that there is a significant difference between many groups within the biographical data.

The research confirmed that there is a need for financial literacy training among students. This should focus on content areas where they lack financial literacy, in

order to ensure that students experience financial well-being during the adult years. Better informed adults would make better financial decisions.

Keywords: *Financial literacy, students, financial knowledge, financial needs, financial skills*

JEL Classification: G00

1. INTRODUCTION

Low financial literacy levels are a worldwide concern because it leads to people making poor financial decisions (Klapper, Lusardi & Van Oudheusden, 2015). South Africans, too, are lacking in terms of financial literacy. According to Roberts, Struwig and Gordon (2014) this results in many citizens overspending, causing them to become over-indebted. This over-indebtedness is particularly concerning for households that are not in a position to save or increase their standard of living (Capuano & Ramsay, 2011). As a result of the lack of saving and many other factors, parents are often not in a position to financially support their children's education (Mbajjorgu, Maake, Kayoka & Masafu, 2012). For this reason, the South African government has introduced a student loan and bursary scheme, called the National Student Financial Aid Scheme (NSFAS). The purpose is to assist students financially to study at any of the public universities in the country. This loan covers costs such as tuition fees, accommodation costs, food, books, and travel. However, this loan must be repaid when students complete their studies (National Student Financial Aid Scheme, 2013). Although the scheme lessens the financial burden on parents, it increases students' debt.

Apart from the debt that students incur through student loans, South African students spend more money per year than the average citizen; with a disposable expenditure of nearly R3,510 per month (Nkosi, 2013). Students mainly spend money on rent, food, clothing, fuel, extra tuition and secondary expenditure, including gadgets, entertainment, alcohol, transportation, toiletries and cosmetics (Nkosi, 2013). This shows that students are making financial decisions daily that can either have a positive or negative impact on their financial well-being in the long term. The negative impact of financial shortages and the prospect of debt was another part of the build-up to the #FeesMustFall campaign and uprisings.. If

students are, however, financially literate, it could assist them to make sound financial decisions (Louw, Fouché & Oberholzer, 2013).

This specific study was specifically conducted at a public university where there is a lack of student residences. This places an additional financial burden on students, because they do not have easy access to the library or other learning support. Students are obliged to seek accommodation some distance away from campus and consequently have to spend the little money they get from grants, scholarships or parents on travelling as well. For this reason, financial literacy seems to be of particular importance for these students. If students make inappropriate decisions and find themselves in financial difficulty, it may have a negative impact on their entire learning experience and, in turn, increase the current high dropout rate. This suggests that students need to have financial literacy and skills in order to have a successful learning experience.

The aim of this study is to determine undergraduate students' financial literacy at a public university with a lack of residences in South Africa. The findings will form the basis for recommendations regarding relevant strategies that can be implemented to improve students' financial literacy levels and support their studies. The remainder of the article states the research problem, provides a summary of relevant previous research, the research methodology and also presents the results.

2. FINANCIAL LITERACY

Remund (2010) notes that researchers have trouble to agree on a definition for financial literacy. Atkinson and Messy (2012) propose a definition of financial literacy as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing". In order to have the ability to make sound financial decisions and judgements, an individual will need financial knowledge and skills. The Australia and New Zealand Banking Group Limited (ANZ) (2011) support this definition, as it also includes attitudinal and behavioural components in its definition of financial literacy. For the purpose of this study, the definition of JumpStart Coalition (2007) was used. In their definition financial literacy is described as an individual's ability to use knowledge and skills to manage financial resources effectively in order to ensure a lifetime of financial security.

Some scholars have opted to define financial literacy by its content areas (ANZ, 2011; Organisation for Economic Co-operation and Development (OECD), 2012). Owojori, Akintoye and Adidu (2009) assert that financial literacy consists of the following content areas: budgeting, savings, investing and credit. Studies by Remund (2010) and Huston (2010) conclude that financial literacy consists of content areas such as basic money concepts, saving and borrowing, investing, financial planning and protecting resources (insurance). The content areas that were identified by Botha (2013) in a study conducted in South Africa include money basics, saving/investing, borrowing/credit and protecting financial resources (insurance, markets and instruments). Huston (2010) concludes that the accuracy of financial literacy measures is dependent on the number of content areas covered by the research instrument. This implies that a research tool that, for example, covers four content areas is deemed more accurate than one including one or two content areas. Louw (2013) conducted a study in South Africa focusing on the financial literacy of third-year students and identified the following clusters of financial literacy: general financial literacy, financial planning and investment, banking and taxation and legal and sundry financial matters. For the purpose of this study these clusters of financial literacy are used as they are relevant to a student population in the South African context and it is based on a comprehensive literature study by Louw (2013).

Ramasawmy, Thapermall, Dowlut and Ramen (2013) identify that most countries are struggling with economic development. The findings indicate that healthy economic development can be achieved if current and future leaders have the necessary financial literacy (Ramasawmy *et al.*, 2013). This assertion shows the importance of ensuring that current students have the necessary financial literacy. However, many students leave school without having any knowledge of basic financial principles (Channell, McCormick & Parrot, 2008). In order to deal with this challenge, an increasing number of states in the United States of America (USA) are introducing compulsory financial literacy education. This has been done because financial literacy is regarded as a necessity for students in today's competitive financial world (Channell *et al.*, 2008). Apart from the USA, the Commonwealth Bank Foundation (undated) has been working with secondary schools in Australia since 2004 to improve their financial literacy skills.

Despite the apparent emphasis internationally, only a limited number of studies have focused on the financial literacy levels of South Africans (Botha, 2013). The

lack of South African research suggests that there is a need to conduct further studies on this topic for a South African sample. Symanowitz (2006) asserts that studies that are available on financial literacy in South Africa are mostly qualitative in nature, which highlights the importance of measuring financial literacy quantitatively. Symanowitz (2006) used a sample of Grade 12 learners and found that their financial literacy levels are poor and lower than those of their peers in developed countries such as the USA. As far as it could be established, Louw (2013) and Botha (2013) conducted two of the very few quantitative studies in South Africa, focusing on the financial literacy of South African students. Botha (2013), in particular, identified low levels of financial literacy, which implies that students cannot manage their personal finances or make sound financial decisions. Louw (2013) concluded that the students had a good level of knowledge regarding general financial literacy, but only scored 51, 40 and 34 per cent respectively for the questions on financial planning and investment, banking and taxation and legal and sundry financial matters. The study of Louw was done using a newly developed and tested instrument for the South African environment. It was, however, done with a limited sample and included mostly Afrikaans-speaking students.

3. RESEARCH METHODOLOGY

3.1 Research approach and sampling

The study was conducted in the positivist paradigm and was quantitative in nature. A cross-sectional study was conducted and data were collected once-off by means of a structured questionnaire. Quota purposive sampling was used to select the sample of students at one university. This was done to have a representative sample of respondents that would be able to provide input on the research question, focusing on a university where there is a lack of residences. This sampling method allowed for the inclusion of students studying towards a qualification in commerce fields (BCom) and those studying towards a qualification in non-commerce-related fields. Data were collected from mostly first-, second- and third-year students. A total of 450 questionnaires were distributed and the responses consisted of 300 students, providing for a response rate of 66,7%.

3.2 Instrument

An existing questionnaire of Louw (2009), measuring financial literacy, was adapted to collect the data. The first section included questions soliciting demographic data from the participants and background information about their financial life and the final section evaluated the students' financial literacy. The questions addressed all the content elements identified by Louw (2009). Students had to indicate "yes", "no" or "don't know" to a set of 43 questions. In order to determine initial content validity of the questionnaire, two statisticians were requested to provide insight into the questionnaire. The questionnaire had a Cronbach's alpha for the financial literacy test of 0.829. This is even higher than the Cronbach's alpha of 0.738, which was reported by Louw (2009). According to Salkind (2012), a correlation coefficient of between 0.8 and 1.00 may be regarded as a very strong indication of internal consistency reliability.

3.3 Data collection and analysis

The questionnaire was distributed during scheduled contact sessions by selected lecturers. The primary data generated from the questionnaire were analysed by a statistician using the SPSS statistical package. Descriptive statistical techniques included frequencies, measures of central tendency, standard deviations and correlations. The Mann-Whitney U test and Kruskal-Wallis test were performed to compare results for the biographical variables.

3.4 Ethical considerations

Permission was obtained from the university to conduct the study. An application for ethical clearance was submitted to the institution that supervised the study and permission was granted. All the participants were informed about the purpose of the study and that they participated voluntarily. Signed informed consent was obtained from each participant in the study. The students did not receive any remuneration for participating in this study. No results of a single individual are made available and responses of individuals were treated as confidential.

4. RESULTS

The first part of the questionnaire consisted of the biographical elements. The final sample consisted of 63,4% females and 36,6% males. With regard to the mother tongue, 71,2% of the respondents were Sesotho-speaking, 14% isiXhosa, 5,4% isiZulu, 2,3% Afrikaans and 1,7% English-speaking. The majority of the

respondents were in their first year of study (48,5%), followed by those in their second year (37%), third year (11,7%), and fourth year (2,7%). More than half of the respondents were funded either by the NSFAS (58,8%) or by a bursary (8,1%), while 31,4% indicated that they themselves were paying for their studies. The majority of the respondents were in the 18-20-year age group (37, 1%), followed by the 21-23-year age group (34,1%), and 12,7% between 24 and 26. Only 6,1% indicated that they were 27 years or older.

The sample consisted of black African respondents (97,3%), coloured respondents (2%), and 0,7% Indian/Asian respondents. With regard to paternal highest academic qualification, 38,1% of the sample indicated that their fathers had completed secondary school. A total of 9,4% indicated that their fathers were diploma graduates and 6,4% indicated that their fathers held a degree qualification. A total of 35,5% indicated that their mothers had completed secondary school, 10,7% indicated that their mothers were degree graduates, and 9% responded that their mothers were diploma graduates. Lastly, it was found that 54,6% of respondents were enrolled for a commerce-related course. The levels of the scores on financial literacy are in reported in Table 1, 4, 5, 6 and 7.

Table 1: Measures of central tendency with regard to financial literacy

| Variable | Smallest score | Largest score | Mean | Median | SD |
|---------------------|----------------|---------------|-------|--------|----------|
| Financial knowledge | 26 | 116 | 73.17 | 73.00 | 11.68573 |

Respondents scored boarder line positively (mean = 73.17; SD = 11.68573) in terms of financial knowledge. However, it does indicate that there are many areas that may need improvement and that should be addressed. These are discussed in 4.2 (Table 4 to 7).

4.1 Financial literacy and socio-demographic variables

In order to determine the influence of the demographic variables on the dependent variable (financial literacy), a Mann-Whitney U test and a Kruskal-Wallis test were performed due to the fact that the data were not normally distributed, as determined by a Kolmogorov-Smirnov test and a Shapiro-Wilk test. The Mann-Whitney U test was used for gender and field of study (commerce-related or non-commerce-related), due to the fact that these variables have only two levels (Table 2).

Table 2: Mann-Whitney U test results for gender and field of study

| Variable | Z-score | <i>p</i> |
|----------------|---------|----------|
| Gender | -0.055 | 0.956 |
| Field of Study | -1.071 | 0.284 |

As can be seen from Table 2, neither gender nor field of study influenced the financial literacy level statistically significantly.

The Kruskal-Wallis test results for year of study and mother tongue are indicated in Table 3 below.

Table 3: Kruskal-Wallis test results for selected biographical variables

| Independent variable | Chi-square | DF | <i>p</i> |
|--------------------------------|------------|----|----------|
| Age | 3.259 | 3 | 0.353 |
| Race | 2.594 | 2 | 0.273 |
| Year of study | 1.883 | 3 | 0.597 |
| Mother tongue | 4.345 | 5 | 0.501 |
| Method of payment | 4.664 | 3 | 0.198 |
| Paternal highest qualification | 8.645 | 4 | 0.071 |
| Maternal highest qualification | 7.882 | 4 | 0.096 |

As can be seen from Table 3, none of the other biographical variables measured, had a statistical significantly different financial literacy between the various options within the variable. For example, there was not a statistical significant difference in the financial literacy of the different age groups ($p=0.353$).

4.2 Financial literacy

The findings are discussed in line with the clusters identified by Louw (2013), namely general financial literacy, banking and taxation, financial planning, interest rates and general inflation and legal aspects in terms of financial matters.

4.2.1 Financial literacy: Cluster 1 – General financial literacy

The average performance of participants on this cluster was 60,3%. A layout of results per question is presented in Table 4.

Table 4: Correct responses to Cluster 1 (General financial literacy)

| Questions | Correct responses (%) |
|--|-----------------------|
| Invoices of assets purchased should be kept for warranty purposes. | 86,0 |
| A statement of my financial position shows my assets, liabilities and net worth at a given date. | 85,8 |
| Inflation has an impact on savings. | 82,9 |
| A budget is a monetary expression of my financial priorities. | 82,6 |
| Long-term financial goals should be changed as new information becomes available. | 70,5 |
| All banks charge the same service fees on cheque accounts. | 70,4 |
| Age plays a role in determining a person's car insurance. | 70,0 |
| If I am married in community of property, both spouses must sign the documents if I purchase a fixed property. | 68,1 |
| Certain health care/medical aid plans only pay for hospital expenses. | 64,7 |
| All job openings are advertised in newspapers. | 63,5 |
| Tax records should be kept for five years. | 56,4 |
| It is not necessary for budgeted and actual expenses to be equal. | 54,2 |
| Two investments, namely A and B, have the same level of risk associated with them. A has a higher level of return than B. Thus B is the preferred investment choice. | 37,2 |
| Debt is always a bad idea. | 30,7 |
| The "tax year" normally extends from 1 January until the last day in December of the same year. | 25,1 |
| A valid will does not have to meet legal requirements. | 16,2 |
| Average | 60,3 |

For the general financial literacy cluster, the question that most participants answered correctly was the one on whether invoices of assets purchased should be kept for warranty purposes. The most incorrectly answered question was the one that stated that a valid will does not have to meet legal requirements. The students did not perform badly in this cluster.

4.2.2 Financial literacy: Cluster 2 – Banking and taxation

The average performance of participants on this cluster was a dismal 30,8%. A layout of the correct response rate is presented in Table 5.

Table 5: Correct responses to Cluster 2 (Banking and taxation)

| Questions | Correct responses (%) |
|---|------------------------------|
| Financial planning should be affected by inflation. | 65,5 |
| Consumer credit cards are generally regarded as the least expensive form of credit. | 45,4 |
| Fixed expenses remain fixed for many years. | 43,1 |
| Credit cards are generally regarded as the least expensive form of credit. | 28,5 |
| If I have car insurance and I have an accident, my premium should stay the same. | 27,8 |
| Returns on most investments are guaranteed. | 25,9 |
| Cash is a high-return-earning asset category. | 15,2 |
| A deposit slip is a document used to transfer money between accounts. | 13,3 |
| The best way to save money is to save money in a savings account. | 13,1 |
| Average | 30,8 |

It was apparent from the responses in this cluster that the participants are not knowledgeable about banking and taxation. Overall, only 1 of the 9 statements, namely “financial planning should be affected by inflation” was answered correctly by more than 50% of the respondents. Respondents specifically performed poorly on questions pertaining to saving money, the importance of cash, credit card usage, returns on and cost of investments and car insurance. These are areas that should be focused on in interventions with these students.

4.2.3 Financial literacy: Cluster 3 – Financial planning, interest rates, and inflation

The third cluster of student financial literacy was labelled as financial planning, interest rates and inflation. The overall average for this cluster was even lower at 28,1%. The correct response rate in terms of financial planning, interest rates and inflation are presented in Table 6.

Table 6: Correct responses to Cluster 3 (Financial planning, interest rates, and inflation)

| Questions | Correct responses (%) |
|---|------------------------------|
| At the moment, paying a bond repayment is generally more expensive than renting the same property. | 46,1 |
| Retirement annuity fund contributions are tax-deductible. | 44,0 |
| Compared to buying a house, renting a house provides more financial flexibility. | 39,8 |
| If a person's net worth is R9,000 and the person owes R8,000, the person has total assets of R17,000. | 32,8 |
| Every owner of a business must register for VAT. | 28,9 |
| If I have a debit balance on my bank statement, I have a positive balance on my account. | 26,8 |
| The current maximum (marginal) tax rate for individuals is 40%. | 22,9 |
| The current prime lending rate is 15%. | 11,6 |
| Average | 28,1 |

The responses indicate that the participants are not knowledgeable about financial planning, interest rates and inflation. The overall performance of the respondents on each statement in this cluster of financial planning, interest rates and inflation ranged from 11,6% to 46,1%. The respondents did not perform well on any of the questions in this cluster. Clearly any intervention should therefore include a basic understanding of economic principles.

4.2.4 Financial literacy: Cluster 4 – Legal aspects in terms of financial matters

The participants' overall performance in this cluster was 50,32%. The correct response rate is presented in Table 7.

Table 7: Correct responses to Cluster 4 (Legal aspects in terms of financial matters)

| Questions | Correct responses (%) |
|---|-----------------------|
| Setting short-term goals helps me to control my living expenses. | 89,9 |
| If I feel that I have been mistreated during a loan application, I can take the matter to the National Credit Regulator. | 74,7 |
| I must register at the Department of Trade and Industry before I can start my own business. | 57,7 |
| If I have a complaint about my banking institution, I can take the matter to the Ombudsman for banking services. | 55,9 |
| If I emigrate, there is a limit to the amount of money I can take out of the country. | 45,1 |
| I need to have an antenuptial contract if I am married out of community of property. | 41,8 |
| The use of credit can be helpful during periods of high inflation. | 39,9 |
| A medical aid company can turn me down if I apply to become a member of a medical aid fund. | 36,0 |
| The current inflation rate is between 10% and 11%. | 31,7 |
| A general rule of thumb is that I will need 10 times my annual salary in savings at retirement, to be able to retire financially independent. | 30,5 |
| Average | 50,32 |

Respondents performed well in their responses on the statements “setting short-term goals helps me to control my living expenses” and “if I feel that I have been mistreated during a loan application, I can take the matter to the National Credit Regulator”. Students performed the worst on the statements regarding the current inflation rate and saving for retirement.

5. DISCUSSION

From the information presented in Table 4, it is clear that the respondents performed the best in the general financial literacy cluster. The 60% score is, however, lower than the 80% score found by Louw (2013). An international study found that college students lacked general financial literacy and that they were likely to make financial mistakes when joining the real world (Chen & Volpe, 1998). From the responses, one may conclude that respondents still struggled with questions pertaining to wills, the tax year, debt management and comparing investments. There is a need for improvement on general financial literacy for this

sample as they constantly have to make financial decisions on general aspects related to personal finances.

The findings in terms of banking and taxation (Table 5) indicated that the respondents answered most questions in this cluster incorrectly, obtaining a score of 30,8%. This is also much lower than the finding of Louw (2013) of 51%. The respondents particularly performed poorly on items related to savings and investments. In the South African context, it has been reported that the spending and debt levels of citizens are high, while saving rates are low, which is indicative of low financial literacy levels (Symanowitz, 2006). This shows that it is important for these students to be trained on aspects of banking and taxation as it is problematic to the country in general. Moreover, learning how to save money should be emphasised, since a lack of money will possibly restrict students' access to higher education.

The third cluster measured was financial planning, interest rates and inflation. From the findings (Table 6) it is clear that the respondents did not perform well on any of the questions in this cluster. They also scored a very low 28,1%. This is consistent with the findings of Louw (2013), who found that students demonstrated a lack of knowledge of financial planning, interest rates and inflation. The average score for his sample was 40%. The Organisation for Economic Co-operation and Development (OECD) (2012) asserts that an individual who is financially literate should understand that income and wealth should be planned and managed over a short period and also over a long period. The respondents performed poorly on financial planning, interest and inflation, which is a matter of concern since students will enter the workplace within the next few years and need to understand how to do sound financial planning in order to ensure personal financial well-being.

The fourth cluster of financial literacy that was measured was legal aspects in terms of financial matters (results presented in Table 7). This was the cluster in which students performed the second best with an average score of 50,3%. In this cluster the students performed better than the sample of Louw (2013) who scored 34%. This may indicate that the specific sample was better prepared for aspects that could be studied from textbooks and required less practical experience.

This demographic profile of these students differed from that of Louw (2013) since it was mostly students from a previous disadvantaged background. It was clear that the students scored lower on three of the four clusters and have an even greater need for assistance.

6. CONCLUSION AND RECOMMENDATIONS

The findings of the study indicated the importance of financial literacy for students and the current apparent lack thereof. The study supports the notion that gender, age, race, year of study, mother tongue, method of payment and the level of qualification from parents does not have a significant influence on financial literacy. Based on the results of the four clusters presented, it can be concluded that the students who participated in this study performed poorly in most of the financial literacy clusters measured. In particular, students did not perform well in banking and taxation; financial planning, interest rates and inflation and legal aspects of personal financial management. The performance of the respondents on the general financial literacy cluster may be regarded as adequate. The finding should be alarming as well-educated students display such poor results, as people with a weaker educational background may well even score lower. As indicated in the introduction, people with lower financial literacy make poor financial decisions.

In line with the discussion of the results, it is recommended that universities, in collaboration with banking institutions and government agencies such as the South African Revenue Service, should engage in activities that are intended to educate students on various issues of personal finance, which will improve students' financial literacy. It is important to develop students' financial literacy in order for them to manage their finances appropriately when they enter the workplace. It is also recommended that universities should consider implementing a compulsory undergraduate financial literacy course, which should be designed to educate university students on various aspects of personal financial management.

Universities should accept their role as being more than just the academic developer. Students need to be trained and skilled in at least the following as well:

- General financial literacy

- Managing debt
- Requirements of wills
- Banking and taxation
 - How to make investment choices
 - How to calculate return on different investments
 - Services provided by banks and reading bank statements
 - Principles of different taxes
 - Insurance product options
- Financial planning, interest rates and inflation
 - Preparing personal financial statements
 - Choosing between buying and letting
 - Understanding basic economic principles
- Legal aspects
 - How to choose a medical aid
 - How to choose between different marriage contracts.

7. LIMITATIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The study was limited to the students registered at one private university in South Africa. For this reason, the results of the study cannot be generalised to other universities in South Africa. However, the aim of the study was to determine the financial literacy of a group of students who do not have access to student accommodation on campus in order to identify their training needs. The study also focused on a different sample compared to the study of Louw (2013) and compared students studying towards a commerce-related course compared to a non-commerce-related course. It also provides further validation for the instrument used by Louw (2013). Further studies should be done to determine whether there is a significant difference between the financial literacy scores between the various faculties.

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