Study of Financial Literacy Among College Students in a Public University, Borneo Tarakan Indonesia

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Article Info	Abstract
	This paper aims to examine gender differences in financial literacy among college students in Borneo Tarakan University. We use Multistage Random Sampling method. The research recruits 325 college student form Department of Management, Faculty Economic. The findings indicate gender differences function in different aspects of financial literacy. Female students are better literate than male student. The findings confirm basic concept of financial literacy in Compound of Interest and Inflation. In terms of level differrence the level 2 better literate than level 1 and 3, this confirm to all basic concept literacy. As for age differences, college students of 19-20 years old are better literate. Meanwhile, the results of college student with working experience are better than student without working experience in Compound of Interest and Inflation concept. However, we got different results on stock risk concept, college student without working experience are better literate than college students with working experience.

1. INTRODUCTION

The use of financial literacy as an early warming indicator to solve financial problem among student has been rapidly increases. Researchers are argued high knowledge in financial literacy will be better to solve the financial problem. Many Researchers in financial literacy focus to investigate differentiate of male and female considered to their knowledge. The issue of Gender being interested in field of financial and economic, cause the scholar belief the behavioral of male and female may determine many of industry to enhance their product with certain segment. Now day, all of organizations concerned to effort the documentation of distinguish in financial field such as financial literacy among gender, college student and their attitude.

Regarding to financial literacy implication to financial behavior, prior studies from many researchers they have statement that financial literacy has important implication.

Lusardi & Tufano (2009) stated after examines the link between Debt Literacy, Financial Experiences, and Overindebtedness in US. They find that debt literacy is low, only one-third of the population seems to understand the concept of interest compounding. It means the population have problem with debt considered to less knowledgeable of financial literacy concept or they are cannot known their debt position. Koenen & Lusardi (2011) examine financial literacy in German. They found that knowledge of basic financial concepts is lacking among women, the less educated and those living in East German. Comparing to West German the result is not significant different. Further they found there is no gender disparity in financial knowledge in the East German.

According to young adult or college student financial literacy level, many researchers examine the financial literacy regarding the level of class, gender, race, most of the focusing on gender differences. Hira et.al (2000) examines the student perceptions on their education debt and its impact on life after graduation. The results shown many of the respondents were unaware of their total loan indebtedness and payment obligation (over and underestimating debt payment). The results suggest

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a need for greater educating of prospective borrower and the assumption of a preventive posture on the part of those involved in the lending process. Falahati & Faim (2011) in Malaysia examine gender differences in financial literacy among student. They found male students have more knowledge concerning credit and risk management, while females are more knowledgeable in respect of general financial literacy. Further, Rosacker et.al (2015) suggests financial illiteracy can hinder one's ability to achieve long-term goals such as succeeding at higher education, owning a home, and financing retirement. Their study investigates the efficacy of having upper-level accounting majors teaching basic financial literacy concepts to freshmen business majors.

As we know, the college students are will be graduation and become future labor, most importantly for us to solve their financial problem in the future within enhance their financial literacy level. The lack of financial literacy may mitigate college student to the financial problem and the effect of this lack may contagion to their career, life and family. Considered to financial problem, this research conducted working experience as one of variable to evaluate the financial literacy level among college student. The use of working experience to fill the gap of research in this area to finds better solution and policy for college to minimize the financial problem of college student in the future.

2. METHODOLOGY

2.1 Financial Literacy Concepts

The Organisation for Economic Co-operation and Development (OECD) has defined financial literacy as "a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing. Meanwhile, The U.S Department of Treasury defined financial literacy as "the ability to make judgements and to take effective actions regarding the current and future use and management of money.

There are a lot of papers regarding the financial literacy. Chen & Volpe (1998) examine the relationship between the literacy and student's characteristics and impact of the literacy on student's opinions and decisions using survey method in the US. They found that Respondents answer about 53% of question correctly. However, Non-business majors, women, student in the lower class ranks, under age 30, and with little work experience have lower levels of knowledge. They argue that less knowledgeable students tend to hold wrong opinions and make incorrect decisions. The basic concepts of financial literacy from Chen & Volpe are: compound of interest, risk and expected

return, diversification of portfolio, achievement of saving and early withdrawal finalty. Using the same method Beal & Delphacitra (2003) in Australia, they found that financial literacy is not high. Whereas, the Respondents answer about 52.9% of question correctly for the basic knowledge of financial literacy such as compound of interest. Meanwhile, Lantara & Kartini (2015) examines the level of financial literacy among undergraduate and graduate students of Gadjah Mada University, Indonesia. They found that only 45.39 % of Respondent answered the questions correctly, the results less much than Chen and Volve (1998), Beal & Delpachitra (2003) were got 53% answered correctly. Further, using probit and tobit regeression, the study showed that education level and majors are positively associated with the financial literacy. Furthermore Bhushan & Medury (2013) examine the financial literacy and its determinant. They use level of salaries individual based on various demographic and socio-economic factors. They found overall financial literacy level of respondent is not high. Also, financial literacy level affected by gender, education, income, nature of employment and place of work, whereas it was not affected by age and geographic.

2.2 Instrument to Measure Financial Literacy

The basic concept of financial literacy was developed by Lusardi and Mitchell (2011). They develop the concept *simplicity* to measure basic financial concept, relevance, *question* had to relate to concepts pertinent to people's day-to-day financial decision over the life cycle and *brevity*, few representative surveys can devote much time to financial literacy topics. The number of questions had to be kept to a minimum in order to secure widespread adoption. In addition, *capacity to differentiate* need to be adapted in order to differentiate between financial knowledge levels and to compare people in term of their scores on common set questions. Three questions to measure financial literacy by Lusardi and Mitchell (2011) are:

1) Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than $102, (b) exactly $102, (c) Less than $102, (d) don't know (DK) and (e) Refuse to answer.

2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy: more than today with the money in this account, (b) exactly the same as, (c) less than, (d) don't know (DK), and (e) Refuse to answer.

Table 1.
Summary Statistics

Variables	The Sub Variables	Frequency	Percentage
Gender	Male	74	37.19%
	Female	125	62.81%
Age	17-18	46	23.12%
	19-20	119	59.80%
	21-22	34	17.09%
Education level	Level 1	54	27.14%
	Level 2	72	36.18%
	Level 3	73	36.68%
Education	Private School	45	22.73%
Background	Government School	153	77.27%
Ethnic Dummy	Tidung	16	8.04%
	Bugis	71	35.68%
	Jawa	45	22.61%
	Toraja	17	8.54%
	Banjar	11	5.53%
	Dayak	6	3.02%
	Makasar	4	2.01%
	Sunda	4	2.01%
	Others	25	12.56%
Working Experience	Not Have Experience	111	55.78%
	1– 6 Months	68	34.17%
	7– 12 Months	5	2.51%
	>1 Years	15	7.54%

3) Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund.", (a) True, (b) False, (c) don't know (DK), and (d) Refuse to answer.

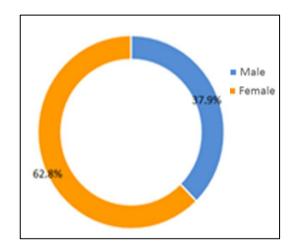**2.3 Sample and sampling method**

A number of 325 samples was targeted in this survey. The sample was taken from the college student of Department of Management in the Borneo Tarakan University, North Kalimantan, Indonesia. Multistage random sampling was used to count the valid sample. Based on sample response, this study involved 199 samples (out of 325).
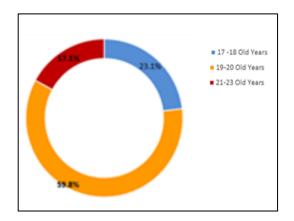
3. RESULTS AND ANALYSIS

3.1 The Basic Description of Samples

In this study, the actual or the final sample was 199 samples. (61% response rate of the sample). Table 1 shows the summary statistics of survey sample. Meanwhile, Figure 1, Figure 2, Figure 3, Figure 4 and Figure 5 present the gender, age, education background, education level, working experience and ethnic dummy distribution, respectively.
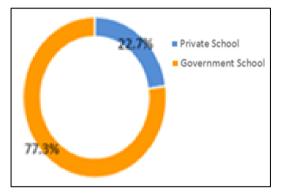
Figure 2 shows distribution of age participants in the sample. We divide the participant's age level into three categories: 17 to 18, 19 to 20 and 21 to 23 according to the how schools group them into different grades. Participants of 17 – 18 old years

accounts for 23.12%, participants for 19 -20 old years 59.80% and participants 21 – 23 old years 17.09%. The highest percentage of participants falls in the group of students in 19-20 old years.
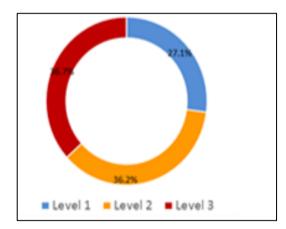

Figure 1.
Gender distribution of samples

Figure 2.
Age distribution of samples

Figure 3.
Education background distribution of samples

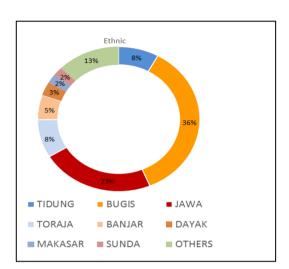**Figure 4.**
Education level distribution of samples

Figure 3 illustrate the distribution of education background of participants. We divide the participant's education background into two categories: private school and government school. According to their educational background categories private schools is account for 22.73% and from government school accounts for 77.27%. This distribution shows us highest percentage of falls in the group from government school.

Figure 4 shows the number of education level of the participants. We divide the participant's education levels into three parts: level 1, level 2 level3. According to participant's educational levels, level 1 accounts for 27.14%, level 2 accounts for 36.18% and level 3 accounts for 36.18%. This distribution shows us the highest percentage of falls in the group from level 3.

Figure 5 shows the distribution of working experience of participants. We use dummy variable equal to 0 if the sample have not working experience or 0 working experience, 1 if the sample have 1 to 6 month working experience, 2 if the sample have 7 to 12 month working experience and 3 if the sample have working experience more than 1 year. The figure 5 shows for 0 working experience accounts for 55.78%, 1 – 6 months accounts for 34.17%, 7-12 months accounts for 2.51% and for more than one year accounts for 7.54%. This distribution shows us the highest percentage of falls in the group from without working experience.

Figure 6 illustrate the distribution of participants. The participants from Tidung accounts for 8%, Bugis accounts for 36%, Jawa accounts for 23%, Toraja accounts for 8%, Banjar accounts for 5%, Dayak accounts for 3%, Makasar accounts for 2%, Sunda accounts for 2% and others 13 %. The figure shows the highest participants are from ethnic Bugis.

Figure 5.
Working experience distribution of samples
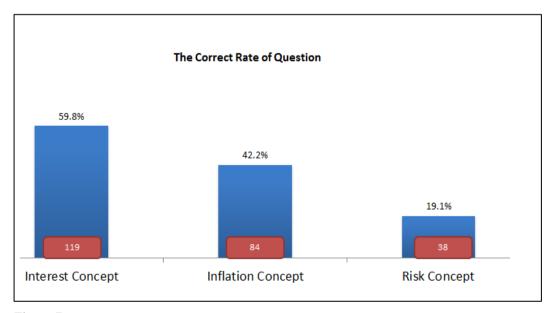
Figure 6.
Ethnic dummy distribution of samples

3.2 Financial Literacy Level of Student College in Borneo Tarakan University

Following the previous research, we determine the level of survey sample according to the correct answer rate of 3 three major questionnaire questions. The lowest rate ratio is 1 and the highest level is 3. Then, we scaled the correct answer of each question divide to three. We find the mean results of all three majors questionnaire of student college of Borneo Tarakan University is 2.48, this reflects the financial literacy level of survey sample is not high.

Furthermore, the standard error of survey sample is 1.17, it means there is significant different of financial literacy on survey sample. The skewness value is 0.08. The values slightly to left, reflecting that financial literacy of the survey sample if positively and moderately skewed.

Further, we find the correct answer for interest concept is 59.80%, inflation concept is 42.21% and risk concept is only 19.10%. the results of the three majors of financial literacy among student college in Borneo Tarakan University highest only for interest concept it conditions in line with the student behavior that only known and practicing in interest considered to their status. However, the two financial literacies concept both below 50% and risk concept lest than 20%. Figure 7 shows the result of the correct answer of question of financial literacy.

3.2.1 Gender response correct on financial literacy

Table 3 show the result of gender different response correct on financial literacy. Female are better literate than male on financial literacy. Female student got 64.80% correct answer on compound of interest otherwise they counterpart got only 51.35%. Further, the correct answer of inflation female got 43.20% than male, however the different of correct response quite small close to 3%. Meanwhile, male only got better results in stock risk concept than female. Male got 46.22% and they counterpart got only 20.80%, the different in this result more than 50%.

Figure 7.
The correct rate answer of questions

3.2.2 Level response correct on financial literacy

Table 4 show the result of level different response correct on financial literacy. In compound of interest level 3 of college student got better results than level 1 and level 2. The result of level 3 is 63.01%, level 1 is 57.41% and level 2 is 58.33%. Further, in an inflation concept level 2 of college student better than level 1 and level 3. The result of level 2 is 50.00%, level 1 is 46.30% and level 3 is 31.51%. Next, in the stock risk concept level 2 better than level 1 and level 3. The result of level 2 is 20.83%, level 1 is 16.67% and level 3 is 19.18%. However, the result in the concept of stock risk concept in average is low less than 21%. Interestingly, on average the level 2 more consistent than level 1 and level 3 confirm to financial literacy.

3.2.3 Age response correct on financial literacy

Table 5 show the result of age different response correct on financial literacy. In sum college student in the 19-20 yeasr old more literate than they counterpart. In compound of interest college student in 19.20 years old got better results than 17-18 and 21-23. The result of 19-20 years old is 63.03%, 17-18 years old is 56.23% and 21-23 years old is 52.94%. Further, in inflation concept 17.18 years old got better results than 19-20 and 21-23. The result of 17-18 years old is 52.17%, 19-20 years old is 42.02% and 21-23 years old is 29.41%. Stock risk concept college student in 19.20 years old got better results than 17-18 years old and 21-23 years old. The result of 19-20 years old is 20.17%, 17-18 years old is 19.57% and 21-23 years old is 14.41%. However, the result in the concept of stock risk concept in average is low less than 20%. Interestingly, on average the 19-20 years old more consistent than 17-18 and 21-23 years old confirm to financial literacy.

Table 2.
The summary statistics of financial literacy Correct rate

Variables	Observations	Mean	Standard Deviation	Skewness	Varian	Kurtosis
Interest	199	0.69	0.48	0.78	0.23	1.97
Inflation	199	1.03	0.36	-0.55	0.13	2.74
Risk	199	0.76	0.33	-0.15	0.11	1.81
Total	199	2.48	1.17	0.08	0.47	6.52

Table 3.
The summary statistics of gender response correct on financial literacy

	Gender	Correct	Incorrect	DK
Compound of Interest	Male	51.35%	29.73%	18.92%
	Female	64.80%	16.80%	18.40%
Inflation	Male	40.54%	32.43%	27.03%
	Female	43.20%	23.20%	33.60%
Stock Risk	Male	46.22%	50.00%	27.03%
	Female	20.80%	28.80%	49.60%

Table 4.
The summary statistics of level response correct on financial literacy

	Level	Correct	Incorrect	DK
Compound of Interest	Level 1	57.41%	14.81%	27.78%
	Level 2	58.33%	33.33%	8.33%
	Level 3	63.01%	15.07%	21.92%
Inflation	Level 1	46.30%	18.52%	35.19%
	Level 2	50.00%	33.33%	16.67%
	Level 3	31.51%	26.03%	42.47%
Stock Risk	Level 1	16.67%	29.63%	51.85%
	Level 2	20.83%	50.00%	29.17%
	Level 3	19.18%	28.77%	52.05%

Table 5.
The summary statistics of age response correct on financial literacy

	Age	Correct	Incorrect	DK
	17-18	56.23%	19.57%	23.91%
Compound of Interest	19-20	63.03%	21.85%	15.13%
	21-23	52.94%	23.53%	23.53%
	17-18	52.17%	15.22%	32.61%
Inflation	19-20	42.02%	27.73%	30.25%
	21-23	29.41%	38.24%	32.35%
	17-18	19.57%	28.26%	50.00%
Stock Risk	19-20	20.17%	40.34%	39.50%
	21-23	14.71%	35.29%	50.00%

Table 6.
the summary statistics of working experience response correct on financial literacy

	working experience	Correct	Incorrect	DK
	0	54.95%	24.32%	20.72%
Compound of Interest	1	67.65%	19.12%	13.24%
	2	60.00%	0.00%	40.00%
	3	60.00%	20.00%	20.00%
	0	37.84%	25.23%	36.94%
Inflation	1	50.00%	30.88%	19.12%
	2	40.00%	0.00%	60.00%
	3	40.00%	26.67%	33.33%
	0	21.62%	39.64%	37.84%
Stock Risk	1	17.65%	33.82%	48.53%
	2	0.00%	20.00%	80.00%
	3	13.33%	33.33%	53.33%

3.2.4 College student with Working experience response on financial literacy

Table 6 show the result of college student with and without working experience different response correct on financial literacy. College student with working experience are better literate than college student without working experience in compound of interest and inflation concept. College student with working experience got 67.65% in compound of interest and 50.00% in an inflation concept otherwise College student without working experience got 54.95% in compound of interest and 37.84% in an inflation concept. Meanwhile, stock risk concept College student without working experience better result than College student with working experience. However, the result quite small only 22% correct answer.

4. CONCLUSION

The objective of this study was to examine gender differences in financial literacy among college student in Indonesia. The findings indicate gender differences in different aspect of financial literacy. In which female student were more literate than male students confirm to basic concept of financial literacy. The result of the year level, we found the level 2 more literate than level 1 and 3 confirm to all basic concept literacy. Meanwhile, the results of working experience on college student better than student without working experience in compound interest and inflation concept. However, we got different the results on stock risk concept, college student without working experience more literate than college students with working experience. The results for the age category better literate for college student with 19-20 years old or in the second level.

The results indicate that college student in level 2 and 19-20 years old got the high score confirm to level 1, level 3, year 17-18 and year 21-23. The results show us inconsistency of financial literacy course in their department, the theory suggest more education better in financial literacy. Thus, according to the results the policy maker of that department should evaluate the learning process of their courses.

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