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DETERMINANT ANALYSIS OF FINANCIAL LITERACY AFFECTING MARKET DISCIPLINE PERFORMANCE

A STUDY ON DISCIPLINE MECHANISM ASPECT OF THE NON BANKING FINANCIAL INSTITUTION CUSTOMERS IN WEST JAVA, INDONESIA

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Abstract

The phenomenon of high incidence of investment frauds showed lack of knowledge among investors. The absence of literature that examines the relationship between the Financial Literacy and Market Discipline encouraged research aimed to analyze the relationship between financial literacy and market discipline on the aspects of Discipline Mechanism, among employees and retirees of state-owned enterprises in West Java. Descriptive and verificative research used to show and describe the state of the object of research and hypothesis testing. This explanatory method used quantitative data obtained from a survey using questionnaires. Data analysis was based on Structural Equation Model. The conclusions of this study were 1) Important factors that determine Financial Literacy consists of Responsibility and Financial Decision Making, Income and Career Planning and Management of Money, Credit and Debit, Risk Management and Insurance, and Savings and Investment, 2) Financial Literacy level of *demographic group had no significant differences, 3) important factor of Market Discipline was Discipline Mechanism aspect, and 4) It was proved that the Financial Literacy had significant effect simultaneously on Market Discipline in the aspect of Discipline Mechanism, in addition, it was proven that the Financial Literacy on Responsibility and Financial Decision Making, on Credit and Debt, as well as on Savings and Investments showed significant effect partially on the Market Discipline of Discipline Mechanism aspects. While the Financial Literacy on Income and Careers, on Planning and Financial Management, as well as on Risk Management and Insurance did not prove partial effect.*

Keywords: Financial Literacy, Market Discipline, Discipline Mechanism, Investment, Structural Equation Model

INTRODUCTION

When the world suffered from the wave of financial crisis, the concept of Market Discipline became more prominent not only in banking but also in the field of financial institutions and other investment institutions, even the Bank for International Settlements (2001, 2003) incorporate elements of Market Discipline as an instrument to stimulate the system finance and banking are strong and secure. Berger (1991) Market Discipline translated mechanism as a situation where the private sector actors, such as creditors, shareholders, depositors, and agencies, will bear the costs were positively correlated with the risk of an asset and will react according to the costs they bear.

Basically, this mechanism is awakened from a principal-agent relationship issues. Principal will punish the fund management institution if excessive risk-taking happened (Levy-Yeyati et. al., 2003, 2004). Investors, for example, will pull funds if financial manager suspected of running excessively risky business (Excessive Risk). Another illustration, the rating agencies will lose some credibility when it fails to assign rank according to their level of risk. In essence, the owners try to ensure that investment managers will not harm the investment to take business risks that exceed a level that can be tolerated. If the investment is threatened, investors will liquidate its investment or ask for extra compensation for the additional risk borne.

Many researches have been conducted to test the effectiveness of market to discipline financial institutions and related banking risk management. Most researches are aimed at testing the effectiveness of Market Discipline is based on the level of economic progress. Research of Market Discipline in the economy of developing countries, among others, performed in Colombia (Barajas and Steiner, 2000), Argentina (Calomiris and Powel, 200l), Chile (Budnevich and Franken, 2003), India (Ghosh and Dash, 2003), Indonesia (Valensi 2003; Hidalgo and

Herwany 2011; Hidalgo and Myra, 2011) and so on. Meanwhile, a similar study was also accomplishedby using data of developed economies, such as in the United States (Flanery, 1998; Khorasaani, 2000; and Flanery and Nikolova, 2004), and Europe (Sironi, 2003). Research on Market Discipline by using data from developed and emerging economies simultaneously was performed by Demirguc-Kunt and Huizinga (2004).

On the mechanism of Market Discipline, investors usually use fundamental information on the financial statements of a bank in identifying the level of risk. An empirical investigation on the issue was conducted by Barajas and Steiner (2000); Rose, Pinfold and Wilson (2004); as well asPeria and Schmukler (1999).

Nevertheless, the concept of Market Discipline alone is still too weak to be able to fulfill the purpose of the prevention of excessive bank risk. Achievement of Market Discipline is unavoidable due to certain conditions in an economy (Llewellyn, 2005; Levy-Yeyati, Peria, and Schmukler, 2003, 2004). In addition, the results of the study also recommends the support of other instruments to help the market discipline works, as supported by Ioannidou and Dreu (2006), De Ceuster and Masschlein (2003), Benink and Wihlborg (2002), Lane (1992), and Hosono (2006). Other special issues in studies of Market Discipline is the ability of markets to solve the problem of moral hazard that arises when the depositor does not have adequate information about the bank's surveillance projects, as conducted by Nier and Baumann (2002).

Many important factors determine Market Discipline, but there is no research that examines the relationship between the Market Discipline Mechanism Aspect with the important factors that influence it, namely the Financial Literacy. The global financial crisis has shown how vulnerable the investors' exposure to financial risks. Complex financial products that are the result of financial engineering combined with a low level of Financial Literacy encourages the need for protection through better market regulation and sharpening education to investors (Gallerry and Gallery, 2010). Through regulation, government can improve Financial Literacy to avoid investment fraud (Williams and Satchell, 2011).

Financial Illiteracy is widespread very well in the developed countries and also rapidly changing, it was found that women of Financial Literacy is less than men, younger age groups and older age group are less financial literate than middle-aged group, and better educated group has a better Financial Literacy. However, the Financial Literacy here is more likely to plan for retirement. An instrumental variable shows that the effect of Financial Literacy on retirement planning tends to be underestimated. In short, throughout the world, the Financial Literacy is very important for the security of investments (Lusardi and Mitchell, 2011).

Result of previous researches related to Financial Literacy by age group showed that the level of Financial Literacy among the elderly population made it worrisome investment, further the elderly showed a worse outcome for the management of investment and debt as well asthe risk of fraud and deception, so it needed no more attention on it to ensure their financial security (Lussardi, 2012). In addition, age and level of education had positive correlation with the Financial Literacy and financial establishment. Those who are married had more Financial Literacy. Higher Financial literacy will lead to better financial establishment and fewer financial problems (Taft, et.al., 2013)

Access to financial services did not dependent on the level of literacy, however, it depended on the level of earnings, the distance to the banks, age, marital status, gender, household size and level of education. There was a possibility that the group with no Financial Literacy excluded so that the Financial Literacy improvement program was necessary (Wachira and Kihiu, 2012).

The mediating effect namely demographic factors appeared between financial learning and behavioral testing of personal financial management. It is also found that in the older age groups (> 50 years) there was a mediating effect on the relationship between financial learning and subjective perception over the satisfaction of personal financial management (Yoong, See and Baronovich, 2012).

Results of previous research related to the Financial Literacy on education / learning factors showed that educators play a role in improving financial literacy by providing motivation to the students to have the responsibility for the future (Mandell and Klein, 2007). Educators played an important role in improving the Financial Literacy (Donovan, et al, 2005). Improved Financial Literacy could be obtained through a systematic and structured learning process (Pang, 2009)

Results of previous research related to the Financial Literacy which was based on the level of income and education showed that the level of Financial Literacy was influenced by the level of income, education and activities in the workplace (Gerrans, Clark-Murphy and Truscoth, 2009). The groups with the level of income, level of education and a high level of Financial Literacy had the opportunity to obtain information about the investment advice (Collins, 2012). People who had strong financial attitude tend to not use credit cards or borrowing from relatives and preferred to borrow from a bank (Ibrahim and Alqaydi, 2013)

However, the existing literatures had not linked the Financial Literacy with Market Discipline adequately, due to its focus more on explaining the factors that determine the Financial Literacy. In fact, the urgency of Market Discipline was to protect the interests of investors through the Financial Literacy in the capital markets, debt markets, mutual funds market, commodity markets, as well as other investment markets which were not well regulated.

To minimize the impact of the imbalance of information in financial and banking system, it is necessary to improve Financial Literacy due to emerging phenomenon of cases that harm customers who invest in such following cases:

Table 1. Investment Cases

No	Year	Companies	Losses (Rp)	No. of Customers
1	2014	PT Exist Assetindo	1,3 T	800
2	2014	Cipaganti Graha	3,2 T	8.700
3	2014	Koperasi Titian Rizqi Utama	1,4 B	hundred
4	2013	Golden Traders Indonesian Syariah (GTIS)	1 B	hundred
5	2013	PT. Calio Management	500 B	1.000
6	2013	Lautan Emas Mulia (LEM)	400 B	400
7	2013	PT. Primaz	2,4 T	3.000
8	2013	CV. Panen Mas	10 B	50
9	2012	PT. Fatriyyal Member	6 T	7.000
10	2011	PT. Sarana Perdana Indoglobal	2,8 T	10.000
11	2008	PT. Wahana Bersama Globalindo	3,5 T	10.000
12	2002	PT. Qurnia Subur Alam Raya (Qisar)	480 B	6.800
		And many more		

Source: Compiled from various Internet news, 2014

In addition, the Financial Services Authority (FSA) received reports of 238 companies which were considered out of FSA supervision (Kompas, March 22, 2014), so that people questioned the existence of agencies that oversee these investment institutions. This rose concerns and distrust of investors in making an investment due to the low level of financial literacy of investors and compounded with an indication of asymmetric information, because the institutions involved and the number of harmed investors were significant. Therefore, this study was also conducted to explain how the Financial Literacy affected Market Discipline in responding to the situation in investment instruments. The results of this research as a contribution to sharpen the theory of Financial Literacy and Market Discipline which formed the basis of government policies that are intended to protect investors.

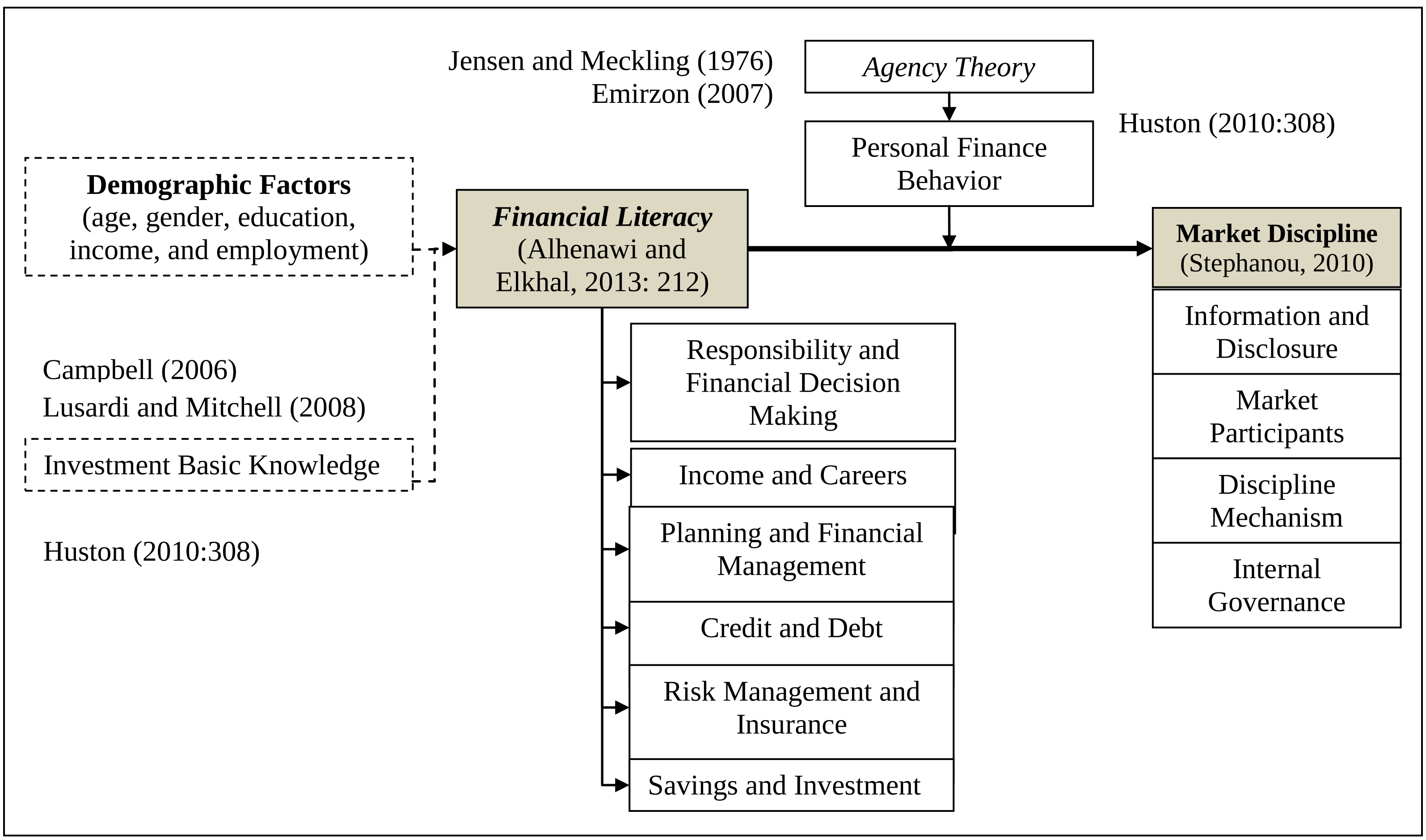
The study results presented above showed that Financial Literacy was important to prevent excessive risk-taking in the financial institutions and banks. The increasingly important role when making a decision to invest should consider the investment risk based Discipline Mechanism. Based on the identification of problems could be formulated in the form of research questions whether there is an effect of Financial Literacy on Market Discipline on Discipline Mechanism Aspects?

Linkages between the Financial Literacy Market Discipline seen from an understanding of finance required support of openness or information availability of investment institutions as one of the Market Discipline parameters. This is confirmed by Stephanou (2010) that put Discipline Mechanism as an important aspect in the Market Discipline. This shows that a person who has an understanding of finance needs fundamental information to identify the level of risk.

Measurement of Market Discipline in this study referred to a framework developed by Stephanou (2010), which consisted of four (4) parameters as follows: 1. Information and Disclosure; 2. Market Participants; 3. Discipline Mechanism; 4. Internal Governance.

LITERATURE REVIEW

Figure 1. Conceptual Framework



Campbell (2006) showed that people with lower levels of income and education, characteristics that were associated with Financial Illiteracy was highly unlikely to pay their mortgage obligations during the period of bankruptcy. The linkages among financial knowledge, education, literacy, behavior and well-being according to Huston (2010: 307) are shown in the following figure.

Figure 2. The linkages between Knowledge and Financial Literacy

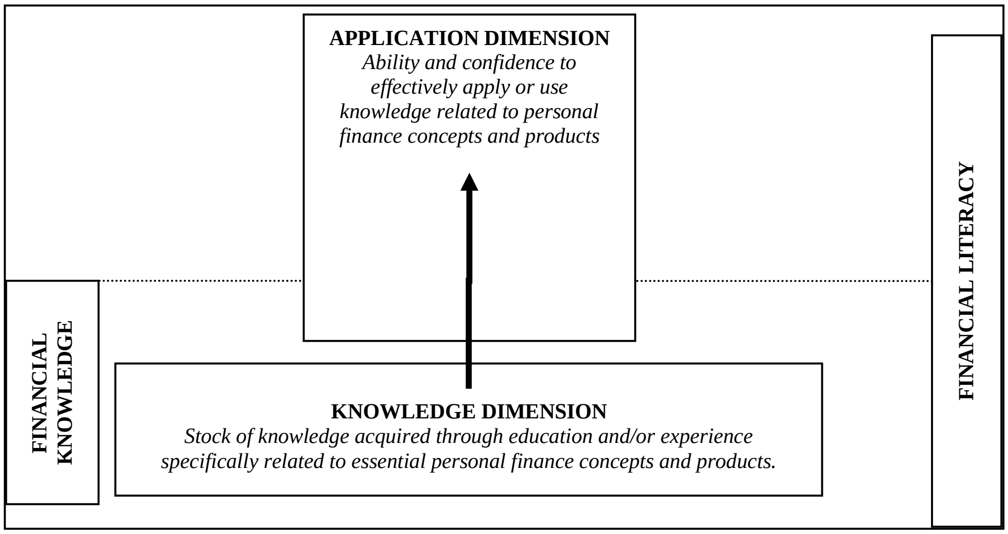
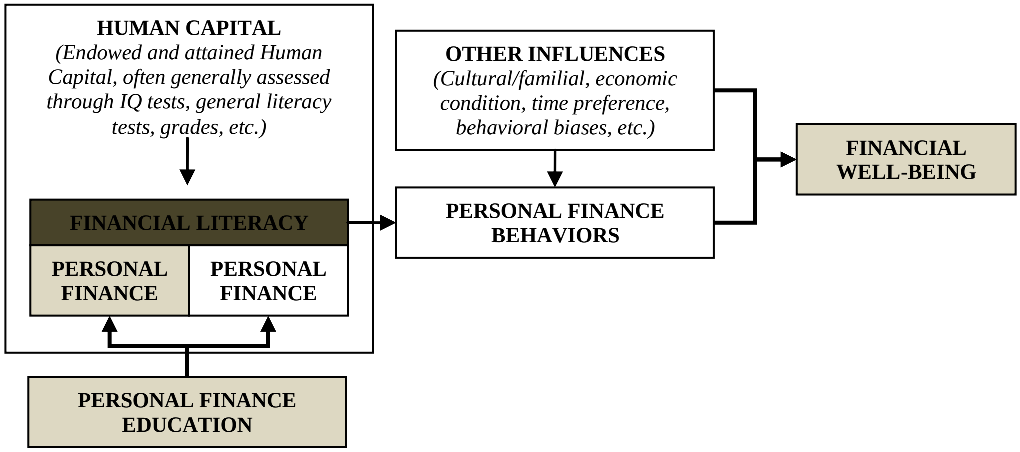


Figure 2 showed that Financial Literacy consisted of knowledge and application of Human Capital specifically in personal financial management. The level of knowledge and its application affected a person's Financial Literacy. For example, if someone had problems in the skills of arithmetic/counting, this of course would affect Financial Literacy, however, the availability of devices (calculators, computer software) could overcome these drawbacks, thus the information that was directly related to the successful management of personal finances was something more important than solely arithmetic skills as a measure of Financial Literacy.

Financial literacy was one component of human capital that could be used in financial activities to enhance the utilization efficiency of consumption (behaviors that increase the financial well-being). Other influences (such as behavioral / cognitive biases, self-control problems, family, economic groups, communities and institutions) could affect financial behavior and financial well-being. Someone who had a financial literacy (who had the knowledge and ability to apply knowledge) would show the behavior or an increase in the financial well-being caused by such things (such as behavioral / cognitive biases, the problem of self-control, family, economic groups, communities and institutional).

Figure 3. Linkages among Financial Literacy, Personal Finance, Financial Behavior and Financial Well Being



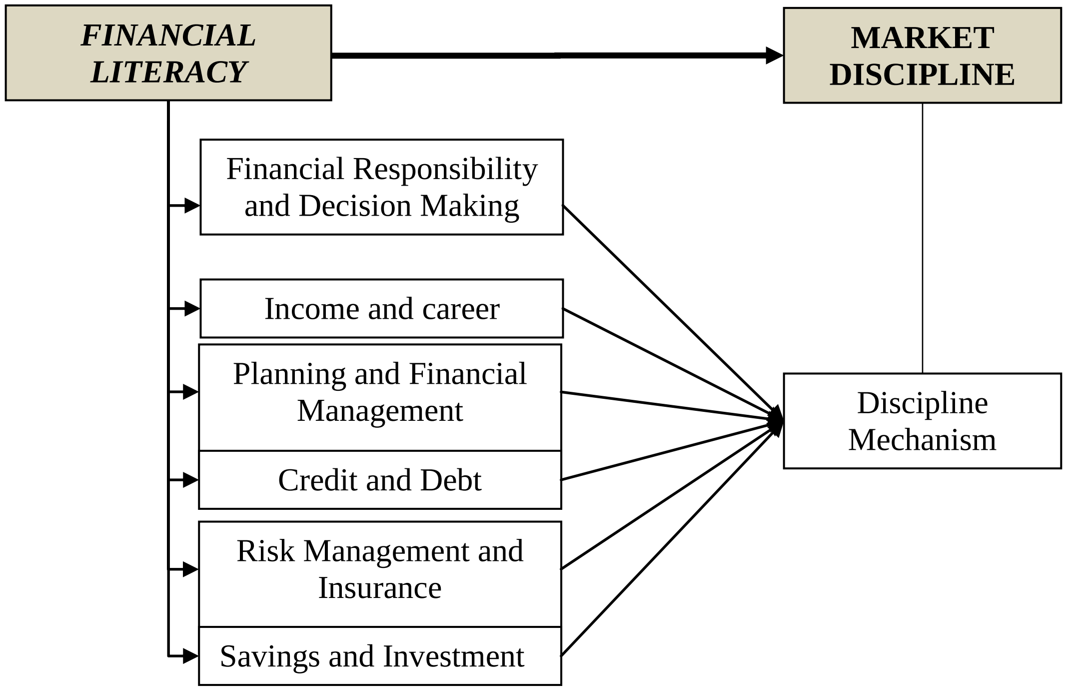
Source: Huston(2010:308)

Figure 3 showed that financial education was an intake intended to improve the Human Capital especially financial knowledge and / or its application. A well designed Financial Literacy device - that cover the knowledge and application of personal finance adequately - was influenced by culture or family, economic conditions, time preference and other factors. This will determine the person's financial behavior which in turn ultimately affected the financial well-being.

Research journals have recorded a strong correlation between the Financial Literacy and a set of behavior throughout a person's age. For example, some journals showed that the individual or someone who had higher arithmeticalability and Financial Literacy was more likely to participate in financial markets and made investments on the stock market (Van Rooij, Lusardi, and Alessie, 2011). Furthermore someone who had a Financial Literacy was more likely to choose mutual funds with lower costs (Hastings, Mitchell, and Chyn, 2011). Lusardi and Mitchell (2007) have shown that the group of baby boomers (ages 51 to 56) who showed high levels of literacy were more likely to do their retirement planning and as a result improved their welfare. Lusardi and Mitchell (2008) also showed that the lack of planning retirement occurred in women with older age and explore this happened because of the lack of Financial Literacy.

Based on the framework of this study, the research paradigm can be described as followed in the Figure 4.

Figure 4. Paradigm of the Research



METHODOLOGY

Research Design

The object of this study was the Market Discipline on Discipline Mechanism aspects that influenced by the Financial Literacy, while the units of analysis were the customers who invested their money in the non-banking financial institutions in West Java. For this, descriptive and verificative research design is selected by the author since in addition to a descriptive research, where the research was carried out to demonstrate and describe the state of the object, the researcher also performed hypothesis testing. The research was conducted by using explanatory method on quantitative data that described qualitatively. Quantitative data obtained from a survey based on questionnaires given to employees and retirees of SOEs in West Java, then followed by an analysis of the identified problems, in order to adjust further steps that described qualitatively.

Descriptive study in this research is aimed at over viewing the level of Financial Literacy of employees and retirees of SOEs, as well as the level of the Market Discipline on the Discipline Mechanism Aspects according to measurements made on the SOEs' retirees and employees.

Sampling Design

The respondents were employees and retirees of SOEs, consisted of PT. Telekomunikasi Indonesia (Telkom), PT. Industry Telekomunikasi Indonesia (INTI), PT. Pos Indonesia, PT. Lembaga Elektronika Nasional (LEN), PT. Kereta Api Indonesia (KAI), PT. Bank BRI and PT. Kimia Farma. Initial survey was conducted to filter employees and retirees who had the financial ability and independence to invest in non-bank financial institutions. Then out of this population, we selected samples as respondents in this research.

The sample size was based on the consideration of the analytical techniques used in the research. The tests used correlation analysis techniques (either correlation or causal) among the various variables identified used Freund's Iterative Method (Machin and Campbell, 1989) obtained a minimum sample size of 266 respondents. The research used a total sample of 766 respondents both employees and retirees of SOE who invest in the Non Banking Financial Institutions in West Java.

The Data Collection Instrument

The data collection was done by using the closed questionnaire using likert scale. Questionnaires were distributed to employees and retirees of SOEs in West Java, both conducted via online survey and field survey.

Collected questionnaires have undergone filtering questions consisted of four (4) questions: 1) Do you have investment experience in non banking institutions, 2) Do you have idle fund to invest? 3) Do you have independence in making investment?, and 4) Currently, do you invest in Non-Banking Institutions (not to individuals)?

All the filtered data then examined in terms of completeness of answers to each statement filed, so that the data obtained have undergone the stages of the filtering process and the completeness of responses.

Analytical Approach

While verificative research is used to identify and examine the link between Financial Literacy and Market Discipline based on measurements made on employees and retirees of SOEs using SEM (Structural Equation Model).

ANALYSIS AND RESULTS

Important Factors Determining Financial Literacy

Table 2. Description recapitulation Analysis of Financial Literacy

Sub Variables	Indicator	Score	Average	Criteria
Responsibility and Financial Decision Making (X1)	X1.1 I am looking for information about a financial product before investing	3430	4.48	**Very Good**
	X1.2 I read the applicable rules on the financial protection	3376	4.41	**Very Good**
	$X_{1.3}$ I make financial decisions by systematically considering alternatives and consequences.	3373	4.40	**Very Good**
	$X_{1.4}$ I'm looking for investment information and communicate with colleagues before investing	3246	4.24	**Very Good**
	Sum	**13425**	**4,38**	**Very Good**
Income and Careers (X2)	$X_{2.1}$ I work in accordance to my choice	3211	4.19	**Good**
	$X_{2.2}$ I know my sources of personal income	3416	4.46	**Very Good**
	$X_{2.3}$ I know the factors affecting take-home pay	3305	4.31	**Very Good**
	Sum	**9932**	**4,32**	**Very Good**
Planning and Financial Management (X3)	$X_{3.1}$ I develop a system for keeping and using financial records	3026	3.95	**Good**
	$X_{3.2}$ I understand how to use different payment methods. (eg, mortgage, credit card, cash) and its consequence	3310	4.32	**Very Good**
	$X_{3.3}$ I have the ability to apply consumer skills to purchase decisions.	3264	4.26	**Very Good**
	$X_{3.4}$ I consider charitable giving (alms, zakat, etc.).	3416	4.46	**Very Good**
	$X_{3.5}$ I develop a personal financial plan	3221	4.20	**Very Good**
	$X_{3.6}$ I examine the purpose and importance of a will.	3337	4.36	**Very Good**

Table 2...

sub Variables	indicator	score	Average	Criteria
	Sum	**19574**	**4,26**	**Very Good**
sub Variables	**indicator**	**score**	**Average**	**Criteria**
Credit and Debt (X4)	$X_{4.1}$ I identify the costs and benefits of various types of credit	3428	4.48	**Very Good**
	$X_{4.2}$ I explain the purpose of a credit record and identify borrowers' credit report rights.	3255	4.25	**Very Good**
	$X_{4.3}$ I describe ways to avoid or correct debt problems	3278	4.28	**Very Good**
	$X_{4.4}$ I understand the consequences as those who receive a loan or grant loans	3333	4.35	**Very Good**
	Sum	**13294**	**4,34**	**Very Good**
Risk Management and Insurance (X5)	$X_{5.1}$ I identify common types of risks and basic risk management methods.	3262	4.26	**Very Good**
	$X_{5.2}$ I explain the purpose and importance of property and liability insurance protection.	3266	4.26	**Very Good**
	$X_{5.3}$ I explain the purpose and importance of health, disability, and life insurance protection.	3278	4.28	**Very Good**
	Sum	**9806**	**4,27**	**Very Good**
Savings and Investments (X6)	$X_{6.1}$ I discuss how saving contributes to financial well-being.	3061	4.00	**Good**
	$X_{6.2}$ I can explain how investing builds wealth and helps meet financial goals	3127	4,08	**Good**
	$X_{6.3}$ I evaluate investment alternatives.	3247	4.24	**Very Good**
	$X_{6.4}$ I can describe how to buy and sell investments.	3167	4.13	**Good**
	$X_{6.5}$ I can explain how taxes affect the rate of return on investments.	3029	3.95	**Good**
	$X_{6.6}$ I investigate how agencies that regulate financial markets protect investors.	2986	3.90	**Good**
	Sum	**18617**	**4,05**	**Good**
Total X		**84648**	**4,25**	**Very Good**

Based on the data recapitulation of Financial Literacy (X), it is found that for the Responsibility and Financial Decision Making (X1)sub variables, the lowest graded question dealt with "respondents look for investment information and establish communication with colleagues before making an investment, whereas the highest graded statement (question) associated with respondents looking for information about a financial product before investing.

For Income and Careers (X2) sub variables, the lowest graded question related to the respondents worked in accordance with his choices, while the highest graded statement related to the respondents know the source of personal income. In the Planning and Financial Management (X3) sub-variables, questions related to respondents record their financial transaction show the lowest grade, while the highest grade statements related to respondents' habit to allocate funds for social purposes and worship (alms, charity, etc.).

For the Credit and Debt (X4) sub variables, the lowest graded questions dealt with respondents making notes on each loan and investment as well as matters related to those loans / investments, while the highest graded questions was linked to the respondents consideration of the gains and losses on various choice of loans or credit. In the sub-variables of Risk Management and Insurance (X5) the lowest graded question with regarded to the respondent understood the types of common risk (e.g., fire, bad debts, late payments) and how to manage financial risk (deal with insurance company) as well as statements related to respondents' understanding on the importance of protection of property and liability, while the highest graded statement relate to the respondents' understanding the meaning and importance of the protection of health insurance, disability and life insurance.

For Savings and Investments (X6) sub variables, the lowest graded questions related to "respondents seek information on agencies that regulate financial markets to protect the investment", whereas the highest graded questions related to "respondents evaluate each investment option".

Based on the sub variables in Financial Literacy (X) of the lowest were Savings and Investments (X6) sub variables, while the highest were Responsibility and Financial Decision Making (X1) sub variables. In general, Financial Literacy variables (X) had a total score of 84.648 with an average of 4.25 and meet the criteria "Very Good".

Ibrahim and Alqaydi (2013) mentioned that those who had better financial literacy would reduce the use of credit cards and preferred to borrow directly to their bank or borrow their friends and family.

In addition to Responsibility and Financial Decision Making (X1), Shankari, Navaratinam and Suganya (2014) stated that the Financial Literacy could be defined as the capacity to have an understanding of financial market products, especially the benefits and risks in order to take financial decisions.

Based on this understanding, the Financial Literacy was basically related to personal financial literacy that allowed individual take effective measures to improve the overall prosperity and avoid failure in the financial field. This is in line with Gerrans, Speelman and Campitelli (2014) who stated that a person who has the better financial literacy tend to have higher welfare which in this study included the Savings and Investment.

Lusardi and Mitchell (2011) stated that the Financial Literacy related to financial planning abilities in old age, which in this study included the Planning and Financial Management. Lusardi and Mitchell (2011) also stated that if someone had to make financial decision then they must understand 1) the concept of compound interest, 2) the concept of inflation, 3) risk diversification.

Crain (2013) concluded that students needed to be provided Financial Literacy in the form of curriculum in certain subjects, as the basis for financial decision making in the future. It showed the relationship between the financial management of individuals with career exploration in the future with regard to the Income and Careers.

Financial Literacy Level Group of Demography

According to Remund (2010), Financial Literacy was a level measurement of one's understanding of the major financial concepts and the ability and the confidence to manage personal finance by making accurate and correct short-term decisions, as well as long term financial planning to deal with events in the life and changing economic conditions. The result of different financial literacy levels testing on different demographic features of employees and retirees of SOEs in West Java by using ANOVA showed that there was no significant different financial literacy for any level of demographic features consisted of Age, Gender, Education and Income.

The results of this study corresponded with the results of research conducted by Ibrahim and Alqaydi (2013) that there was no significant difference between average scores in both men and women. But the results of a study in contrast to the results of research conducted Al-Atamimi and Kalli (2009) who found that Financial Literacy was influenced by the level of income, level of education and work activities. Higher income respondents generally had higher level of education, and those who worked in the banking or investment environment had the higher financial literacy level, however the Financial illiteracy might appear not depend on age level respondents. In addition, by their research, Al-Tamimi and Kalli (2009) concluded that there were significant differences on the level of financial literacy among respondents, male respondents had higher level of financial literacy than women.

The results of this study were also supported by Agarwal, et.al. 2009 (in Lusardi 2012) which stated the relationship between age and the quality of financial decision making with regard to debts that are specifically documented a curve is U-shaped in the costs to be paid, namely 1) a credit card payment, 2) payment of the mortgage, 3) car payments, 4) credit card interest payment, 5) mortgages, 6) small business credit card, 7) credit card late payment penalty, 8) payment of the credit card over limit, 9) payment of cash withdrawal. It is found that the payment of fees and interest rates is low at the age of 35 years, while older people pay a higher fee for this service.

In addition, Cude 2010 (cited by Taft, Hosein, Mehrizi, and Roshan, 2013) described the effective factors in financial literacy which are the level of education, risk appetite, higher age, work experience, family income, parents employment and attendance at training classes. These factors will increase financial. The result of research by Taft, Hosein, Mehrizi, and Roshan, (2013) showed that respondents with higher financial literacy will be more successful in business and in their personal lives, lower financial problems and higher ownership of savings and long-term investment that in turn will produce a better future with a longer vision.

This research conducted by Taft, Hosein, Mehrizi, and Roshan, (2013) was preceded by the increasing number of product diversity and global economic instability of the 21st century due to the increasing complexity of financial decisions and are also caused by consumers who face challenges in economic and financial activities. This research aims at examining the relationship among financial literacy, financial establishment as well as financial problems. Their research found that age and education related positively to financial literacy and financial establishment. Married respondents and men have more financial literacy. High financial literacy will lead to higher financial establishment and lower financial issues, eventually the financial establishment will bring in less financial problems.

Important Factors that Determine Discipline Mechanism Aspect of Market Discipline

Table 3. Recapitulation Analysis on Discipline Mechanism Aspect of Market Discipline

Indicators	Score	average	Criteria
Y_1 I will withdraw my investment if I do not realize any mechanism to adjust the quantity / price of the financial instruments (equity, debt, savings, etc.)	3.159	4,12	**Good**
Y_2 I will withdraw my investment if I do not receive any guarantee on my investment as well as the guarantee of investment results that I will receive	3.254	4,25	**Very Good**

Table 3...

Y_3 I will withdraw my investment if I do not realize any oversight mechanism over my investment	3.281	4,28	**Very Good**
Y_4 I will withdraw my investment if I do not realize any possibility of changes in policies or rules (legal redress) of financial institutions on my investment	3.177	4,15	**Good**
Y_5 I will withdraw my investment if I do not realize any involvement and actions to be taken by supervisors (including bank resolution / exit mechanism) on the financial institutions	3.178	4,15	**Good**
Total	**16.049**	**4,19**	**Good**

Based on the data recapitulation of Market Discipline, it is known that for Discipline Mechanism (Y) aspect, the lowest graded question referred to "the respondent will withdraw investment if he/she does not realize any mechanism to adjust the quantity / price of the financial instruments (equity, debt, savings, etc.)", while the highest graded statement referred to the respondent will withdraw investment if he/she does not realize any oversight mechanism over the investment. In general, the Discipline Mechanism Aspect of Market Discipline led to Good.

Effect of Financial Literacy on Discipline Mechanism Aspect of Market Discipline

The results of structural equation modeling Effect of Financial Literacy on Discipline Mechanism Aspect of Market Discipline variable (Y) is as follows.

$$= \mathbf{0{,}131.\xi_1 + 0{,}031.\xi_2 - 0{,}137.\xi_3 + 0{,}355.\xi_4 - 0{,}033.\xi_5 + 0{,}349.\xi_6 + \zeta_3}$$

Results of the significance test of the path coefficients for the effect of each Financial Literacy Sub Variables to the Discipline Mechanism Aspect of Market Discipline (Y), shown in the following table.

Table 4. Significance test of Path Coefficient of the Financial Literacy Influence on Market Discipline of Discipline MechanismSub Variables (Y)

Exogen	Endogen	Estimation	p_{Value}	Note
X_1	Y	0,131	0,031	Take effect
X_2	Y	0,031	0,604	No effect
X_3	Y	-0,137	0,140	No effect
X_4	Y	0,355	0,000	Take effect
X_5	Y	-0,033	0,682	No effect
X_6	Y	0,349	0,000	Take effect

According to above table it is known that Financial Literacy (X) aspects that significantly influenced the Discipline Mechanism Aspects of Market Discipline(Y) were Responsibility and Financial Decision Making (X1), Credit and Debt (X4) and Savings and Investment (X6), while Income and Careers (X2), Planning and Financial Management (X3) and the Risk Management and Insurance (X5) had no effect.

DISCUSSION

Responsibility and financial Decision-making related to investors' authority in investing their funds determined disciplinary mechanisms of the non-banking financial institutions. The positive influence of Responsibility and Financial Decision Making (X1) on the Mechanism of Discipline (Y) showed that a person who had more authority in making financial decisions would have more attention to the disciplinary mechanism of non-banking financial institution by considering aspects of the disciplinary mechanism consisted of quantity adjustments, collateral guarantees, the existence of the market in corporate control, the possibility of changing the rules and their control measures. The higher the level of authority in Responsibility and investment Decision-making, the more investor considered disciplinary mechanism in investment decision on non-banking financial institutions.

Government efforts to protect investors in the financial services sector conducted by the enactment of the Financial Services Authority No. 1 / Pojk.07 / 2013 on Consumer Protection in the Financial Services Sector Article 12 Paragraph (1) stated that the business communities of Financial Services should inform the consumer of any change benefits, costs, risks, terms, and conditions set forth in the documents and / or agreements regarding the products and / or services of the Financial services business communities. This was related to the mechanism of Discipline primarily on indicators of adjustment of quality / price on financial instruments, which should be informed to the investors included in the non-banking financial institutions.

In the elucidation of Article 12 Paragraph (1) of the Financial Services Authority stated that what was meant by "change" in this verse were changes that include the addition and subtraction of benefits, costs, risks, terms, and conditions set forth in the documents and / or agreements regarding product and / or services of the Financial services business communities. Submission of information could be done using physical or electronic means, either directly to each consumer as well as in the form of the announcement.

Results of research conducted by Juurikkala (2013) concluded that the regulations were not tight or loose depending on the regulations, but depended on the consistency of the implementation of the regulation. This provided an explanation that the reason for the enactment of more regulation to regulatory strategies which should avoid complexity, emphasizes the clarity of responsibility, confirming market discipline, avoid regulatory centralization, regardless the regulator and avoid the constant changes in the rulebook.

Jurrikkala (2013) also explained that the economic behavior stated that many regulations governed the financial markets because investors were not fully addressed rationally and should be protected from the seduction of investment. So far investors were likely to make better investment decisions without too many regulatory supports, because the strict regulations will not solve the problems caused by the lack of market discipline, prices inefficiency and financial innovation. Better results could be obtained from the market freer and simpler rules, because of the complexity of the regulatory aggravated the adverse effects of bounded rationality, where the simple and stable rules increased learning effect more positively.

Investors who understood the concept of credit and debt would make investments in non-banking financial institutions which fulfill discipline mechanism. This was evident from the positive effects of the Credit and Debt (X4) against Discipline Mechanism (Y) was significant. It meant that savvy investors in terms of the concept of credit and Debit would increasingly seek to consider disciplinary mechanism in considering the possibility of a default on non-banking financial institutions.

Investors who understood the concept of credit and Debit were eager to know information about changes in the price policy of financial instruments as an indicator of market discipline, which would affect the financial position of investors in terms of assets and liabilities side. This corresponded with the results of research by Llewellyn, 2005 (cited Stephanou, 2010) which stated that the identification of redundant information supervision of stakeholders by paying attention and the right incentives to supervise a bank, efficient markets where adjustments of price and quantity could occur, as well as the right incentives to the managers of banks to adjust their behavior in response to emerging signals. This showed that knowledge or understanding the concept of Debit and credit would ease investors in choosing the institution to invest their money where they correctly apply market discipline, which in turn investors feel secure in investing in non-banking financial institutions.

Investors who understand the concept and the difference between saving and investing will consider non-banking financial institutions which fulfill the disciplinary mechanism. The positive influence of Savings and Investments (X6) to the Discipline Mechanism (Y) which significantly showed that the investors understand the concept and the difference between saving and investment would more consider their investment decisions based on the mechanisms of discipline committed by non-banking financial institutions. This showed that the discipline mechanism of non-banking financial institutions as reference in making investment decisions were determined by the investor in understanding the concept of savings and investment.

Investor understanding on the concept of saving and investment would make investors pay attention to any changes in policy regarding the prices on financial instruments as one indicator of disciplinary mechanisms, so it would affect investors' decision to invest. The investor would pay attention to this because any indicated changes in the disciplinary mechanism would have an impact on investors' wealth or liability. Bliss and Flannery, 2001 (cited by Stephanou, 2010) introduced two (2) different components in the concept of Market Discipline: the ability of investors to evaluate the actual condition of a company (supervision), and the speed to respond from company managers to feedback given investors as reflected in the stock price. This suggested that investors who had an understanding on saving and investment would provide input to investment institutions for any business opportunities.

Income and Careers had a relationship which showed that the higher a person's career would be followed by the higher income. The more investor's income and career, the larger allocation of fund available to be invested. Influence of Income and Careers (X2) on Discipline Mechanism (Y) was not significant, possibly because the allocation of invested fund did not consider the mechanism of discipline shown by the non-banking financial institutions.

It suggested that the mechanism of discipline on non-banking financial institutions tended not to be used as a reference in financial decision making that investors considered a relatively small portion of invested funds. Investors assumed that the invested funds would not have a big impact on the fulfillment of their needs since their income and career had been able to meet all their needs, or investors did the investment in order to maintain the value of their assets or the investment was positioned only as additional income.

Planning and Financial Management sub variable related to the process of allocating funds to be invested and tend not intend for the consideration in choosing the field of investment or addressed investment institutions. This was shown by the Planning and Financial Management (X3) on Discipline Mechanism (Y) which was not significant. It meant that the better the Planning and Financial Management the stronger the decision to invest, which would consider further discipline mechanism of non-banking financial institutions. This suggested that investors who conducted Planning and Financial Management had not considered discipline mechanisms of non-banking financial institutions in their investment decisions.

Investors who understood the concept of risk management and insurance would consider collateral / margin that would be earned on its investments as one indicator of discipline mechanisms. But the results of this study indicated that the affect of Risk Management and Insurance (X5) on Discipline Mechanism (Y) was not significant, this was possible because of the absence of the guarantee provided by the government in investing in the non-banking financial institutions. Therefore the understanding of the investor in Risk Management and Insurance was not supported by the presence of discipline mechanisms provided by the non-banking financial institutions.

CONCLUSION

There were some findings from this research namely, 1) the important factors that determined Financial Literacy consists of Responsibility and Financial Decision Making, Income and Career, Planning and Management of Money, Credit and Debit, Risk Management and Insurance, and Savings and Investments which showed high criteria to employees and retirees of SOEs in West Java, 2) level of Financial Literacy on the demographic groups(age, gender, education level, and income level) did not have significant differences among demographic groups of employees and retirees of SOEs in West Java, 3) An important factor that determined the Market Discipline is the Discipline mechanism aspect which generally showed high criteria based on the employees and retirees of SOEs in West Java, and 4) based on hypothesis testing, it was proved that the Financial Literacy had significant effect on the Market Discipline of Discipline mechanism simultaneously. It was also proved that the Financial Literacy on Responsibility and Financial Decision Making, Credit and Debit, as well as Savings and Investments had significant effect partially on the Market Discipline of Discipline mechanism aspects. While the Financial Literacy on Income and Careers, Planning and Financial Management, and Risk Management and Insurance partially did not show partial effect on Market Discipline on the Discipline Mechanism Aspect.

Based on the research results, it suggested for the investor to increase financial literacy in terms of responsibility and financial decision-making. It was also suggested that investors should not easily tempted by investment offerings that provided benefits far above of bank interest rates, by looking for more information related to the management of the investment institutions, and the financial investors should understand the basic concepts of finance and investment so as to choose a safe investment providing optimal return that would give financial wellbeing to employees and retirees.

We recognized the limitations of our study - especially the lack of comparison groups - since our respondents were merely employees and retirees of SOEs in West Java. The result would probably be different if the respondents came from different groups such like public servants, military services, lectures or other groups as well as respondents from other regions or area. The research also limited by the use of SEM. The result might be different if we chose different statistical tools.

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