The Influence of Financial Knowledge, Control and Income on Individual Financial Behavior

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Abstract:

The purpose of this study is to analyze the influence of Financial Knowledge, point of Control, and Income on Financial Behavior. This study is based on the Theory of Planned Behavior (TPB), of which the subject is the entire Jakarta communities categorized in the workforce-age, who have already had the occupation and generate fixed-income every month.

The result of this study reveals that Financial Knowledge and Locus of Control do affect Financial Behavior, while Income does not provide the same direction.

Keywords: Financial Knowledge, financial Control, Income, Financial Behavior

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Background

Manulife survey result (Manulife, 2016) revealed the evidence that Indonesian community tend to behave irrationally in finance. From this survey, there are four main points that can be concluded, which are: (1) 70% of majority shareholders do not have target on the amount of long-term savings. (2) 53% of investors spend 70% or more of their income within one month. (3) 10% of investors spend 90% or more of their income, and (4) 40% of investors do not monitor their expenditures. The survey result conducted by LIMRA (Life Insurance Marketing Research Association) showed that among 100 persons in the age of 25 and what would happen when they reached the age of 65, explained that, 1% enjoy their retirement age in economically prosperous condition, 4% achieve financial independence, 5% are still working, 12% suffer from poverty, 49% rely on somebody in their family, and the remaining 29% have already demised (Purwanto, 2013). From those two survey results, it can be concluded that Indonesian community have poor long-term financial planning. Those people’s incomes are allocated more for short-term consumptive expenditures. This kind of behavior is considered as irrational in the aspect of income treatment.

Hilgert et al. (2003) stated that individuals who can act rationally are those who can think logically, indicated by the good activities in financial planning, organizing, and controlling. The indicator of good financial behavior can be observed from the way or attitude of a person in organizing his/her cash inflow and outflow, credit management, savings and investment. In other word, the individual will allocate his/her income for short-term necessities (consumption) and long-term necessities (investment).

How an individual plan and organize his/her income in order to fulfill his/her financial needs can be explained in the theory of financial behavior. Olsen (1998) mentioned that the objective of financial behavior is to comprehend and estimate the systematic implications of financial markets from psychological perspectives.

Ajzen (1980) invented the Theory of Planned Behavior (TPB), which is related to rational act based on the assumption that human beings act in logical way, consider all available information, directly and indirectly calculate the impact from the actions they did. Azwar (1995) stated that according to the theory of rational act, individual will conduct an action whenever he/she views that the action is positive and whenever the individual believes that other people want him/her to conduct such kind of action. Ajzen (1980) mentioned that the intention of someone in doing or not doing something is influenced by two basic factors, which are the attitude that originates from behavioral belief and subjective norm that originates from normative belief. Next, this Theory of Planned Behavior adds the third factor, which is control belief.
Behavioral finance constitutes the theories of behavioral science underlied by the psychological and sociological theory. This theory tries to reveal and explain the inconsistent phenomenon. Ricciardi and Simon (2000) explained that the main point of behavioral finance is trying to explain what, why, and how from human being perspective on finance and investment. Behavioral finance appeared to the surface along with the business and academic development, which started to reveal the aspect or element of behavior in finance and/or investment decision making. This phenomenon was much inspired by the increasing role of behavior as one of the determinants in buying and selling securities (Vovchenko et al., 2015; 2017; El-Chaarani, 2014; Suryanto and Ridwansyah, 2016; Anureev, 2017; Fetai, 2015).

Pompian (2006) explained that behavioral finance is divided into macro and micro behavioral finance. Macro behavioral finance speaks about whether the market is efficient or affected by the impact of behavioral finance. Meanwhile, micro behavioral finance speaks about whether investors act rationally, or whether the cognitive and emotional errors do affect their financial decisions. Micro behavioral finance also classifies individuals based on their characteristics, tendencies, and certain behaviors (Setyawan et al., 2014).

From these facts and theories, it can be concluded that communities’ behavior in Indonesia tend to be irrational in spending their income. This study intends to find out the factors determining individual’s financial behavior, especially among the workforce-age in Indonesia. Perry and Morris (2005) conducted a study on financial behavior, of which the independent variables were Locus of Control, Financial Knowledge, and Income. Respondents were those living in America. Furthermore, this study was conducted again by Grabel et al. (2009) on Korean people living in America. The study conducted by Perry and Morris, was also reviewed by Ida and Dwinta (2010), who then conducted a similar study among the students of Maranatha Christian University. Kholilah and Irmani (2013) also conducted the similar study on people living in Surabaya.

Perry and Morris’ study (2005) using independent variables of Locus of Control, Financial Knowledge, and Income revealed that these three variables do positively influence Financial Behavior. Grabel et al. (2009) found out that Locus of Control and Income negatively influence Financial Behavior, while Financial Knowledge has the opposite way. The study conducted by Ida and Dwinta (2010) also provided the same results as the one conducted by Grabel et al. (2009). Kholilah and Irmani’s study (2013) revealed that Locus of Control has positively influence on Financial Behavior, while Income and Financial Knowledge had negative ones.

The purpose of this study is to reanalyze the influence of Financial Knowledge, Locus of Control, and Income on Financial Behavior. The difference in this research is about the subject, who are those living in Jakarta, categorized in workforce-age, already have occupation generating fixed income during the year of 2016.
Methodology
The population in this study is people in the workforce-age in Jakarta as many as 503 samples. The sampling technique applied in this study is the non-probability sampling, which specifically is the judgement sampling or purposive sampling. The instrument used in sampling withdrawal is the questionnaires, which were distributed indirectly through online media (such as: google chrome, whatsapp, facebook, and email), and directly to the respondents who were incidentally met in the territory of Jakarta Special Region. Another difference, the Income variable becomes the Dummy variable according to the categorization, which is below and above five million Rupiahs per month.

In this study, Financial Knowledge, Locus of Control and Income are placed as independent variables. Financial Knowledge and Locus of Control are measured using 1-5 Likert scale, while Income is measured by using nominal scale as dummy variable. The dependent variable in this study is Financial Behavior, which is measured using 1-5 Likert scale. The statistical tests applied in this study are validity and reliability test, whereas Convergent Validity, Discriminant Validity, and Average Variance Extracted (AVE) become the parameter for validity test. Meanwhile, Composite Reliability and Cronbach’s Alpha become the parameter for reliability test. Also in this study, other several tests are conducted, such as Coefficient of Determination test that can be observed through the value of R-Square, Goodness of Fit test that can be observed through NFI, and hypothesis tests that can be observed through the value of t-statistics.

Statistical Tests
This study uses Structural Equation Modeling (SEM) based on Partial Least Square (PLS) as data manipulation technique. The program used is SmartPLS Version 3.0 especially applied to estimate the structural equation in variance basis.

1. Validity Test
   a. Convergent Validity
Indicators are considered valid if loading factor is greater than 0.5 on the target construct (Ghozali, 2012). The Output of SmartPLS for loading factor provides the result as follows:

\[
\begin{array}{cccc}
   & FB & FK & I & LOC \\
   FB 1 & 0.791 & & & \\
   FB 2 & 0.776 & & & \\
   FB 3 & 0.839 & & & \\
   FB 4 & 0.804 & & & \\
   FB 5 & 0.832 & & & \\
   FK1 & & 0.827 & & \\
\end{array}
\]
Table 1 shows that the loading factor can provide greater values than suggested, except for LOC2 that has the value of -0.290, therefore it becomes invalid. Next, LOC2 is eliminated and then the validity test is re-conducted, of which the result can be seen in table 2 as follows:

**Table 2. Convergent Validity (Second Phase)**

<table>
<thead>
<tr>
<th>FB</th>
<th>FK</th>
<th>I</th>
<th>LOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB 1</td>
<td>0.791</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB 2</td>
<td>0.776</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB 3</td>
<td>0.839</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB 4</td>
<td>0.803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB 5</td>
<td>0.832</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FK1</td>
<td>0.827</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FK2</td>
<td>0.838</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FK3</td>
<td>0.831</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FK4</td>
<td>0.773</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FK5</td>
<td>0.810</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FK6</td>
<td>0.697</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC1</td>
<td>0.768</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC3</td>
<td>0.745</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC4</td>
<td>0.630</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In Table 2, all indicators used in this study are already valid, or in other word, they have met the criteria for convergent validity. Exhibit 1 displays the loading factor diagram for each indicator in this model, which can be seen as follows:

Exhibit 1. The Loading Factor for Research Variables

\[
\begin{array}{|c|c|c|c|}
\hline
\text{LOC5} & \text{LOC6} & \text{LOC7} \\
0.794 & 0.797 & 0.578 \\
\hline
\end{array}
\]

b. Discriminant Validity
The test result on discriminant validity with cross-loading is displayed in Table 3. The discriminant validity is considered valid if the value of an indicator has greater value to its particular variable, than to others. According to Table 3, all indicators have greater value to their own variables, therefore they are considered valid.

Table 3. Discriminant Validity

<table>
<thead>
<tr>
<th></th>
<th>FB</th>
<th>FK</th>
<th>I</th>
<th>LOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB 1</td>
<td><strong>0.791</strong></td>
<td>0.424</td>
<td>0.110</td>
<td>0.456</td>
</tr>
<tr>
<td>FB 2</td>
<td><strong>0.776</strong></td>
<td>0.392</td>
<td>0.191</td>
<td>0.450</td>
</tr>
<tr>
<td>FB 3</td>
<td><strong>0.839</strong></td>
<td>0.391</td>
<td>0.107</td>
<td>0.468</td>
</tr>
</tbody>
</table>
Another method to measure discriminant validity is the square-root of Average Variance Extracted (AVE). The suggested value for AVE is greater than 0.5. The value of AVE can be seen in Table 4.

Table 4. Average Variance Extracted

<table>
<thead>
<tr>
<th></th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB</td>
<td>0.654</td>
</tr>
<tr>
<td>FK</td>
<td>0.636</td>
</tr>
<tr>
<td>I</td>
<td>1.000</td>
</tr>
<tr>
<td>LOC</td>
<td>0.524</td>
</tr>
</tbody>
</table>

Table 4 shows that the values of AVE are greater than 0.5 for all variables in this research model. The lowest value of AVE is 0.524 for LOC variable. Thus, all validity tests by using the parameters of convergent validity, discriminant validity, and Average Variance Extracted already show that all indicators are valid.

c. Reliability Test

a. Composite Reliability

The result of composite reliability test will be satisfying when the value is greater than 0.7 (Ghozali, 2012: 79). Below is the composite reliability as seen in Table 5.

Table 5. Composite Reliability

<table>
<thead>
<tr>
<th></th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB</td>
<td>0.904</td>
</tr>
<tr>
<td>FK</td>
<td>0.913</td>
</tr>
</tbody>
</table>
The value of composite reliability for all variables are greater than 0.7 proving that all variables in the estimated model meet the criteria of discriminant validity. The lowest composite reliability is 0.867 for LOC indicators.

b. Cronbach’s Alpha
The result of reliability test can be supported by the value of Cronbach’s Alpha, which can be seen in Table 6.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach's Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB</td>
<td>0.867</td>
</tr>
<tr>
<td>FK</td>
<td>0.885</td>
</tr>
<tr>
<td>INC</td>
<td>1.000</td>
</tr>
<tr>
<td>LOC</td>
<td>0.817</td>
</tr>
</tbody>
</table>

In Table 6, the value of Cronbach’s Alpha for all variables are greater than 0.7. The lowest value is 0.817 for LOC variable. The result of these two reliability tests using Composite Reliability and Cronbach’s Alpha shows that all indicators have met the reliability criteria.

c. Coefficient of Determination
After the estimated model has met the criteria of outer model, next the test of structural modeling (inner model) will be conducted. Test on this inner model will be conducted to reveal the relationship among variables, of which can be seen from the result of R-Square test in Table 7.

<table>
<thead>
<tr>
<th>Variable</th>
<th>R-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB</td>
<td>0.428</td>
</tr>
</tbody>
</table>

The coefficient of Determination in Table 7 shows that the variation of Financial Behavior can be explained by the variation of Financial Knowledge, Locus of Control, and Income as much as 42.8%, and the remaining are explained by other factors.

d. Indicator’s Contribution to Variable
The statistical tests in PLS for each hypothesized relationship is conducted by using bootstrap simulation method on samples. The goal of using this method is to minimize the abnormality problems from research data. The result of this test by using bootstrap from PLS analysis can be seen in Exhibit 2.
Exhibit 2. Bootstrapping Diagram

**Indicators of Financial Knowledge Variable**

The result of analysis using bootstrapping technique (Exhibit 2) shows that the contribution of each indicator to variable Financial Knowledge (FK) can be explained as follows: FK1 (interest rate) 40.935, FK2 (credit fine) 35.756, FK3 (credit) 36.602, FK4 (financial management) 23.607, FK5 (investment) 32.322, and FK6 (financial report) 21.018. FK1 has the biggest contribution compared to other indicators, with the value of 40.935. This phenomenon means that if you want to enhance your knowledge on finance, then you must enhance your knowledge on interest rate.

**Indicators of Locus of Control Variable**

The result of analysis using bootstrapping technique (Exhibit 2) shows that the contribution of each indicator to variable Locus of Control (LOC) can be explained as follows: LOC1 (capability to make financial decision) 23.468, LOC3 (capability to change important things in life) 22.390, LOC4 (capability to envision ideas) 11.525, LOC5 (level of confidence on the future) 23.052, LOC6 (capability to solve financial matters) 30.195, and LOC7 (role in daily financial control) 10.444. LOC6...
has the biggest contribution to variable LOC compared to other indicators, with the value of 30.195. This phenomenon means that if you want to enhance your locus of control, then you must enhance your capability in solving financial problems.

**Indicators of Financial Behavior Variable**

The result of analysis using bootstrapping technique (Exhibit 2) shows that the contribution of each indicator to variable Financial behavior (FB) can be explained as follows: FB1 (financial controlling) 30.231, FB2 (bill paying) 28.210, FB3 (financial planning) 42.043, FB4 (necessities fulfilling) 29.067, and FB5 (saving) 39.706. FB3 has the biggest contribution to variable FB compared to other indicators, with the value of 42.043. This phenomenon means that if you want to improve financial behavior, then you must improve your financial planning.

e. **Hypothesis Test (t-Statistics)**

The statistical equation in this study is: \( FB = 0.311FK + 0.452LOC + 0.043I \). The dependent variable is considered significant if \( t \)-statistic is greater than 1.96 (at Alpha 5%). The \( t \)-statistics of each variable is represented in Table 8.

**Table 8. T-Test Result**

| Original Sample (O) | t-Statistics (|O/STDEV|) |
|---------------------|----------------|
| FK -> FB            | 0.325           | 7.869 |
| I -> FB             | 0.036           | 0.967 |
| LOC -> FB           | 0.457           | 9.906 |

Based on Table 8, it can be concluded that: (1) There is positive and significant influence from FK to FB, (2) There is positive and significant influence from LOC to FB, and (3) No positive influence from I to FB.

f. **Test of Goodness-of-Fit (GoF)**

Test of Goodness-of-Fit is applied to find out whether the model we created is already fit or not. Based on this GoF test, a model is considered fit if it has NFI near 1. The result of this goodness-of-fit test can be seen in Table 9.

**Table 9. NFI**

<table>
<thead>
<tr>
<th></th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFI</td>
<td>0.816</td>
</tr>
</tbody>
</table>

Based on Table 9, the model in this study is already fit, due to its NFI is 0.816.

**Discussions and Conclusions**
1. The Influence of Financial Knowledge on Financial Behavior

The result of this study shows that there is positive and significant influence from Financial Knowledge to Financial Behavior, which means that the greater the knowledge possessed by an individual, then the better the financial behavior. Such kinds of behavior can be manifested in the greater capability in financial controlling, the more discipline in paying bills, the stronger commitment in fulfilling family necessities and saving the residuals, and the better financial planning for the future. Financial knowledge of the samples is relatively high, due to most of them already have undergraduate and graduate degree (D3, S1, S2, S3), which is 82.7%. Thus, the respondents in this study do have high level of financial knowledge.

This study is in line with the Theory of Planned Behaviour (TPB), as the one conducted by Ramdhani (2008) mentioning that theoretical model of TPB has many variables, such as background - consisting of age, gender, ethnic, socio-economic status - psychological condition, personality, and knowledge affecting an individual’s behaviour toward certain matters.

This result is also aligned with the studies from Perry dan Morris (2005), Grable, Park, dan Joo (2009), and Ida and Dwinta (2010), but provide the opposite results from the study conducted by Kholilah and Iramani (2013), who revealed the negative influence of Financial Knowledge on Financial Behavior.

2. The Influence of Locus of Control on Financial Behavior

The result of this study shows that there is positive and significant influence from Locus of Control to Financial Behavior, which means that the higher the individual’s locus of control, then the better the financial behavior. Kholilah and Iramani (2013) stated that Locus of Control is a psychological variable, therefore it becomes tendencious. An individual has two kinds of tendency, which are the tendency of having internal and external locus of control. Based on this study, it can be concluded that when an individual has internal locus of control, then the financial behavior will be better or improved, and in the opposite, when an individual has external locus of control, then the financial behavior will be worsened. This study is similar to those conducted by Perry and Morris (2005), and Kholilah and Iramani (2013), but provide different result to those conducted by Grable et al (2009), and Ida and Dwinta (2010) revealing that locus of control negatively influenced financial behavior.

When related to the indicators, the most dominant indicator affecting locus of control is the capability of an individual in solving financial problems. An individual who tends to have internal locus of control, is the one who has the belief that he/she can solve daily financial problems and tries to conduct good financial management, such as being able to allocate the money for savings, as well as paying the bills on-time.
3. The Influence of Income on Financial Behavior

The result of this study shows that income has no influence on financial behavior, which means that an individual’s income, either high or low, does not affect the individual’s financial behavior. This phenomenon can be explained in the way that individuals with high level of income are not always able to manage their expenditures in good way, due to the irresponsibility in financial behavior and the tendency to think shortly. This result is supported by the study conducted by Manulife (2013) revealing that Jakarta communities are those who tend to be consumptive and think shortly. Thus, often an individual with high level of income still finds financial problems. Generally, whenever an individual experiences the increase in income, then the expenditures also increases and even exceeds the additional income (Kholilah and Iramani, 2013). The result if this study is also aligned with the theory of behavioral finance, which states that human beings are irrational in their behaviour, due to the psychological factors affecting them.

This study provides similar results to those conducted by Kholilah and Iramani (2013), Grable et al (2009), and Ida and Dwinta (2010), but on contrast with the one conducted by Perry dan Morris (2005) revealing that income did positively influence financial behavior.

Suggestions

For the next study, some suggestions can be provided as follows:

1. Mapping on the respondents may be necessary based on their workplace territory.
2. Increasing the number of respondents may be imperative.
3. The separation of variable locus of control into internal and external elements may be beneficial.
4. Increasing the numbers of independent variables affecting financial behavior remains possible.

References

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Undang – Undang Nomor 36 Tahun 2008 tentang pajak penghasilan.