The Role of Self Control as a Moderating Variable on The Effect of Financial Inclusion on Financial Behavior

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ABSTRACT

Financial behavior among the public is still low, based on research conducted by the OCBC Financial Index showing data that the financial literacy and behavior index of the younger generation is still in the low range category, namely 37.72 out of 100 in 2021 for 1,027 respondents. Previous research on “financial behavior” that was carried out by Perry and Moris (2005) suggests that there are three factors that can affect “financial behavior” including: first one's self-control over whatever happens in life or also called (focus of control). Second, one's financial knowledge of matters related to money or banking products. Third, the level of one's income or (income). Research Objectives: to provide empirical evidence of the effect of financial inclusion on financial behavior. This research was conducted on students of the Faculty of Economics, Hasyim As'ari University with a total population of 980 students with sample calculations using the slovin formula. Research Methods using quantitative research methods with Smart PLS. The results of the hypothesis analysis show that the results of financial inclusion influence financial behavior. And Self Control can moderate or strengthen the relationship of financial inclusion to financial behavior.

INTRODUCTION

Skills in managing finances have an impact on financial conditions in the future. Financial behavior is individual behavior in managing their finances which will affect individual financial well-being in the future (Arofah et al., 2018). Good financial behavior is related to individual financial literacy (Zulaihati et al., 2020). The National Financial Literacy and Inclusion Survey (2022) shows a financial literacy index in Indonesia of 49.68% and a financial inclusion index of 85.1%.

The graph shows the gap between financial literacy and financial inclusion in 10 provinces in Indonesia that have the largest number of Generation Z. Based on this graph, the level of financial literacy in West Java is 56.10%, which is almost the same as financial literacy in East Java, which is 55.32%.
However, East Java's financial inclusion is higher at 92.99% than West Java at 85.31%. If seen at the level of financial literacy and financial inclusion there is a fairly large gap, the existence of this gap can be a potential problem because financial inclusion means that people have the facilities and abilities to access financial products and services, but are not supported by financial literacy or knowledge. Adequate so that it will pose a risk (Saraswati & Nugroho, 2021). Thus, individuals need to have responsible financial behavior so that they are able to manage personal finances properly and wisely.

Based on World Bank data obtained from research results of 150 thousand people spread across 140 countries, Indonesia received a score of 32% for the level of financial understanding. This value is slightly lower than the average score for all countries, which is 33%. Overall, Indonesia is indeed quite superior among most ASEAN countries, but far behind from neighboring countries, namely Singapore (59%) and Malaysia (36%). The low financial literacy of the Indonesian people will have an impact on financial decisions that will be taken, for example financial losses, spending and consumption problems that tend to be wasteful, unwise use of credit cards, and inappropriate investments. As a result, in the aggregate it will affect the Indonesian economy. Because basically a country's economy will be strong if it is supported by high public knowledge of finance (Wahid & Kususiyanah, 2021).

Current financial behavior by students tends to make them unable to manage their personal finances healthily. Healthy financial behavior is shown by good financial planning, management and control activities. Indicators of good financial behavior can be seen from a person's way or attitude in managing the entry and exit of money, credit management, savings and investments (Pinem & Mardiatmi, 2021). There are several factors that influence saving behavior, (Mardiana & Rochmawati, 2020) namely internal factors and external factors. Internal factors are factors that come from within a person such as self-control and the learning process, in this case internal factors related to understanding of knowledge related to knowledge of financial inclusion, namely knowledge related to bank products, and their utilization. This is reinforced by (Anwar & Leon, 2022) which states that a high level of financial knowledge is positively correlated with high levels of income and savings. Having good financial knowledge is assumed to have good financial management too, while external factors that influence saving behavior are factors that come from outside, for example banking advertisements, family and the environment.

The average student in Indonesia does not have access to knowledge about saving behavior in their activities. Referring to the Nielsen survey in nine cities in Indonesia, around 6% of account holders in Indonesia are in the 15-16 year age group, roughly in the third grade of junior high school to the start of college. The survey proves that children in their teens have the awareness to save. Especially among teenagers who are not yet aware of the possibility of uncertainty in the future. Financial inclusion knowledge is knowledge about inclusive financing, with the main objective of providing various financial services. These financial services can be in the form of credit capital, savings, insurance, and financial transfer services (Risman et al., 2023). Students of the Faculty of Economics, especially those majoring in Accounting, have received material on financial inclusion. However, it often happens that even though they have gained knowledge, most students have not been able to apply it in real life. As a student, they often forget that they will grow while they don't prepare themselves for their future, especially in material terms (Jorgensen, 2007).

Referring to research conducted by (Fuidah et al., 2018) stated that students in the city of Bandung stated that the average expenditure incurred for one month from their pocket money, namely 61% was used for snacks (food-drinks), 21.26% was used for pleasurable personal interests. (Top up credit, go to the cinema and buy new things) 16.23% is used for studying transportation costs, buying stationery books) while the remaining 0.88% is used for saving. From the research above it is clear that most of the expenditures made by students in the city of Bandung are expenditures that are fun. And only about 16% is used for spending on school needs or learning needs which are investments in the future. Consumptive behavior that tends to lead to extravagant lifestyles among adolescents is a phenomenon that occurs a lot,
especially teenagers who go to school and live in urban areas. This problem also affects most teenagers in Jombang City, especially teenagers who are in college. This is supported by the condition of the city of Jombang, although it is a small city, it is very well facilitated with shopping centers. Therefore, in every corner of the city of Jombang you can easily find cafes, malls, distros, and factory outlets. That place later became a symbol of youth association in the City of Jombang. Many teenagers are willing to spend pocket money to spend on all their needs without thinking in advance what the benefits of these items are because teenagers do not have good economic rationality, they often buy things just because they want not because they need it.

This illustrates that adolescents still lack self-control, this problem is also experienced by students, from observations made it shows that during holidays and when school is discharged early, most students fill their time by going to shopping centers or just hanging out at cafes. This describes the teenage years that are still looking for identity and do not yet have a basis or principle in consumer behavior. The absence of a strong basis or principle in consumption directs students to behave consumptively. Based on the background, data, and description that has been described, the authors wish to conduct further research under the title The Role of Self Control as a Moderating Variable in the Influence of Financial Inclusion on Student Financial Behavior.

**RESEARCH METHOD**

This research is a quantitative research. According to Sugiyono (2020), Quantitative research in detail, which is detailed, can be described with an emphasis on testing theory through measuring research variables with numbers and conducting data analysis with numerical statistical procedures. The purpose of this study is to provide empirical evidence regarding the hypothesized role of self-control in moderating the relationship of financial inclusion to financial behavior. This research uses primary data through a questionnaire, with the research object being students of the Faculty of Economics, Hasyim Asy'ari University.

![Figure 2. Research Design](image)

Total population in this study were all active students of the Faculty of Economics UNHASY, totaling 987 students. In this study the authors narrowed the population, namely the total number of students as many as 987 students by calculating the sample size which was carried out using the Slovin technique according to Sugiyono (2011: 87). This study uses the slovin formula with the following calculations:

\[
n = \frac{N}{1+N(e)^2}
\]

Information:
- \(n\) = Sample size/number of respondents
- \(N\) = Population size
- \(e\) = Percentage of leeway for accuracy of sampling errors that can still be tolerated; \(e=0.1\)
The total population in this study was 987 students, so the percentage of allowance used was 10% and the calculation results could be rounded up to achieve suitability. So to find out the research sample, with the following calculations:

\[ n = \frac{987}{1+987(10)^2} \]
\[ n = 98.7 \approx 99 \text{; adjusted by researchers to 99 respondents} \]

Based on the calculation above, the sample who became respondents in this study was adjusted to as many as 99 people or around 11% of the total students of the Faculty of Economics, this was done to facilitate data processing and for better test results. Samples taken based on probability sampling techniques; simple random sampling, where the researcher provides equal opportunities for each member of the population (students) to be selected as a random sample without regard to the existing strata in the population itself.

This sampling was carried out using an incidental technique, as stated by Sugiyono (2011: 85), that incidental sampling is a determination of a sample based on coincidence, that is, anyone who coincidentally/accidentally meets a researcher can be used as a sample, if viewed by a person who happens to be encountered. It is suitable as source data. The data collection methods used in this study were questionnaires, observations, and literature studies.

Data management in this study will use smartPLS 4.0.9.3 software. PLS analysis consists of two sub-models, namely the structural model or often called the inner model and the measurement model or often called the outer model. The structural model or inner model shows the strength of estimation between constructs, while the measurement model or outer model shows how indicators represent latent variables to be measured. There are two parts of the analysis that must be carried out in PLS, namely (Furadantin, 2018):

1. Assessing the outer model or measurement model
   The outer model is used to assess the validity and reliability of the model, the measurement model parameters (convergent validity and discriminant validity, composite reliability and Cronbach's alpha). These indicators need to be tested for validity and reliability. The following is a validity and reliability test for models that all use reflective indicators (Abdillah & Hartono, 2015). The following four evaluations of the measurement model or Outer Model are obtained by running the PLS Algorithm in SmartPLS v.3.0.9.3
   a. Indicator Reliability
      Indicator reliability aims to assess whether latent variable measurement indicators are reliable or not. You do this by evaluating the results of the outer loading of each indicator. The loading value above 0.7 indicates that the construct can explain more than 50% of the indicator variance (Furadantin, 2018). Rule of thumb Cronbach's alpha value or composite reliability must be greater than 0.7 although a value of 0.6 is still acceptable (Hair et al., 2008) in (Abdillah & Hartono, 2015: 196).
      b. Internal Consistency Reliability
         Internal Consistency Reliability measures how capable an indicator can measure its latent construct. The tools used to assess this are composite reliability and Cronbach's alpha. The composite reliability value of 0.6 - 0.7 is considered to have good reliability and the expected Cronbach's alpha value is above 0.7 (Furadantin, 2018).
   c. Validitas Konvergen
      Convergent validity is determined based on the principle that measures of a construct should be highly correlated. The convergent validity of a construct with a reflective indicator was evaluated by Average Variance Extracted (AVE). The AVE value should be equal to 0.5 or more. An AVE value of 0.5 or more means that the construct can explain 50% or more of the item variance (Abdillah & Hartono, 2015).
   d. Validitas Diskriminan
      Discriminant validity aims to determine whether a reflective indicator is really a good measure of its construct based on the principle that each indicator must have a high correlation with its construct alone. Different construct metrics should not be highly correlated (Fatoni, 2020).
2. The structural model (inner model) is evaluated using R-square
   The first step in evaluating a structural model is to check for collinearity between constructs and the predictive ability of the model. Then proceed with measuring the predictive ability of the model using four criteria, namely the coefficient of determination (R²) and path coefficients or path coefficients (Furadanti, 2018).
   a. Coefficient of Determination (R²)
      The measurement of this structural model begins by looking at the R-Squares value for each endogenous latent variable as the predictive power of the structural model (Ghozali, 2014). The coefficient of determination (R²) is a way to assess how much an endogenous construct can be explained by an exogenous construct. The value of the coefficient of determination (R²) is expected to be between 0 and 1. An R² value of 0.75 indicates that the model is robust. The value of 0.50 indicates that the model is moderate and 0.25 indicates that the model is weak (Furadantin, 2018).
   b. Path Coefficients atau Koefisien Jalur
      Furthermore, measuring the path coefficients between constructs is carried out to see the significance and strength of the relationship and to test the hypothesis. Hypothesis testing is based on the P-value, where a construct is declared to have a significant effect if it has a P-value <0.05 (Furadantin, 2018).

RESULTS AND DISCUSSION

This research was conducted on students of the Faculty of Economics, Hasyin Asy'ari University. The Faculty of Economics has three study programs namely management, accounting study program, and Islamic economics study program. With a population of 987 students with a total sample of 99 students. The following is an image of the outer loading results obtained:

![Figure 3, Outer Loading Results](image-url)

From the results of the outer loading, it is possible to measure convergent validity as follows:
Table 1. Measuring convergent validity

<table>
<thead>
<tr>
<th>No</th>
<th>No Notasi</th>
<th>Loading Factor Value</th>
<th>Convergent Validity Criteria</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X1 ← X</td>
<td>0.822</td>
<td>&gt; 0.7</td>
<td>valid</td>
</tr>
<tr>
<td>2</td>
<td>X2 ← X</td>
<td>0.854</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X3 ← X</td>
<td>0.819</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>X5 ← X</td>
<td>0.739</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>X6 ← X</td>
<td>0.746</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>X7 ← X</td>
<td>0.790</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>X8 ← X</td>
<td>0.855</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>X9 ← X</td>
<td>0.821</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Y2 ← Y</td>
<td>0.942</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Y3 ← Y</td>
<td>0.891</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Y4 ← Y</td>
<td>0.950</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Y5 ← Y</td>
<td>0.925</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Y6 ← Y</td>
<td>0.890</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Y7 ← Y</td>
<td>0.784</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Y10 ← Y</td>
<td>0.890</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Z ← Z X</td>
<td>1.000</td>
<td>valid</td>
<td></td>
</tr>
</tbody>
</table>

Source: SmartPLS 4.0.9.3 (Data processed by researchers in 2023)

Based on the table above, the results of convergent validity measurements show that the loading factor value is greater than the convergent validity. It can be concluded that all variable indicators have a Loading Factor above 0.7 which indicates that all indicators can represent variable constructs.

The reliability of a construct or variable can be measured by the composite reliability of the indicator block that measures the construct. The construct is declared reliable if the composite reliability value is above 0.70 (Furadantin, 2018). According to Furadantin cornbach alpha in PLS it is said to be good if it is ≥ 0.5, and it is said to be sufficient if it is ≥ 0.3. If a construct meets these criteria, it can be said that the construct is reliable. From the table below you can see the results of composite reliability and Cronbach alpha:

Table 2. Cronbach Alpha Value and Composite Reliability

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's alpha</th>
<th>Average variance extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>0.926</td>
<td>0.651</td>
</tr>
<tr>
<td>Y</td>
<td>0.959</td>
<td>0.805</td>
</tr>
<tr>
<td>Z</td>
<td>0.908</td>
<td>0.733</td>
</tr>
</tbody>
</table>

Source: SmartPLS 4.0.9.3 (Data processed by researchers in 2023)

Based on table 2, it shows that all constructs are declared good and reliable because they have a Cronbach alpha value ≥ 0.5. While the AVE value in table 2 shows that all constructs can be declared reliable because they have a composite reliability value of ≥ 0.7.

Evaluation of the structural model is done by looking at the relationship between the constructs or variables, the significance value and the R-square of the research model. The R-square value is used to determine the magnitude of the dependent variable's variability that can be explained by the independent variable. The greater the R-square value indicates the better the independent variable is in explaining the dependent variable (Furadantin, 2018). According to Chin (1998) in (Furadantin, 2018), the R-square value is considered weak if > 0.19; moderate if > 0.33, and substantial if > 0.67, in obtaining the R-square value.
Based on table 3 it shows that the latent variables Financial Inclusion (X1) and Self Control (Z) are able to explain Financial Behavior (Y) of 0.874 or 87.4% and the remaining 12.6% is explained by other variables not hypothesized in the model.

Hypothesis testing aims to test the existence of significance between constructs. The basics used in testing the hypothesis are the values contained in the output path coefficient to test the structural model. The significance of the influence between variables can be generated by looking at the parameter coefficient values and the T-statistics significance values.

Table 4 provides an overview of the path coefficient estimated output. The results of the path coefficient test in the table above will be used for hypothesis testing. It can be seen from the path coefficient, P-value has a value <0.05, the hypothesis (influence). Based on table 4 it is known that the financial inclusion variable (X) influences financial behavior (Y). This can be seen from the value of P-value 0.000 <0.05. These results explain that the first hypothesis which states that financial inclusion has an effect on financial behavior can be proven or H1 is accepted.

The same thing happens in the interaction between self control (Z), which is able to moderate or strengthen the relationship between financial inclusion (X) and financial behavior (Y). This can be seen from the value of P-value 0.000 <0.05. These results explain that the second hypothesis which states self control moderates or strengthens the relationship of financial inclusion to financial behavior can be proven or H2 is accepted.

This study shows that the variable financial inclusion (X) has an effect on financial behavior (Y). This can be seen from the value of P-value 0.000 <0.05. These results explain that the first hypothesis which states that financial inclusion has an effect on financial behavior can be proven or H1 is accepted. It can also be interpreted that in financial inclusion indicators such as knowledge of various financial products and services, risk of financial products, customer protection and financial management skills can influence the financial behavior of Hasyim Asy’ari University Faculty of Economics students’ financial behavior.

This research is in line with research conducted by (Asyik et al., 2022) which stated that the incessant inclusion movement was carried out to suppress and reduce the number of people who are classified as unbanked or people who are still classified as financially excluded so as to increase financial behavior in Indonesia. Individuals who have good financial behavior will be responsible for their finances with the allocation of effective and priority use of money. Good skills in budgeting, saving money, controlling costs, making investments. With good financial behavior, it will be easy for individuals to achieve financial well-being or financial freedom.
Research by (Tan et al., 2021) on MSMEs showed that fintech and MSME's understanding of banking products or financial inclusion had a significant positive effect on the financial behavior of MSME actors. Increasing financial inclusion is an important way to improve financial behavior. Increasing access to and ease of use of financial products and services will improve financial behavior. This research also strengthens the results of Al Hafsi, et All's research which states that someone who is familiar with digital financial transactions causes more inclusiveness and better financial behavior. Financial inclusion is believed to be a tool that can improve welfare and has become a target and flagship program in various countries, achieving financial inclusion targets through MSMEs is felt to be very effective, especially facilitated by the existence of financial technology capable of encouraging economic growth and good financial behavior (Risman et al., 2023)

This research also supports research findings from (Pinem & Mardiatmi, 2021) which shows the results of financial literacy, financial inclusion and income have a significant influence on financial behavior, which means that financial inclusion can already be carried out by MSMEs will be able to provide good benefits, so that prosperity or prosperity society can be further improved. If financial behavior is appropriate, it can contribute to MSMEs to increase business profitability, so that MSMEs can provide prosperity for their owners and a large contribution to the National Economy, (Arofah et al., 2018) states that, the higher the level of accessibility to financial products and services, this describes that for every MSME actor it will be easy to access all forms of financial services. This convenience will influence how respondents make capital structure decisions for their businesses with a confidence level of 97.5%

However, the results of research conducted by (Anisyah et al., 2021) showed that financial inclusion has no effect on the financial behavior of MSMEs in Sekupang District, which can be interpreted that how big or high a person's level of financial inclusion cannot influence a person in making a decision about his finances. This is because the ability to access financial services for MSMEs in the Sekupang District is still low, so the results obtained do not show any influence on their financial behavior. This research also does not support research conducted by Parangin Angin (2022) which shows the result that financial inclusion has no significant effect on saving behavior, which is an indicator of financial behavior

The results of data analysis show that self control (Z) is able to moderate or strengthen the relationship between financial inclusion (X) and financial behavior (Y). This can be seen from the value of P - Value 0.000 <0.05. These results explain that the second hypothesis which states self control moderates or strengthens the relationship of financial inclusion to financial behavior can be proven or H2 is accepted. The results of testing the hypothesis in this study can be interpreted that students who have high or good access to knowledge of financial products or financial inclusion with good or high encouragement of self-control will improve student financial behavior. Individuals will control their finances with a wise attitude in making decisions, including their personal finances. Having good financial inclusion supported by good self-control, students will be smarter in assessing which things are more profitable and detrimental from a financial point of view. These individuals will choose behaviors that can provide benefits such as saving and investing as needs that can help in the future.

The results of testing the hypothesis are in line with the research of Pradiningtyas and Lukiaustuti (2019) which states that the locus of control, which in this study is self-control, can act as an intermediary in the financial attitude variable towards financial behavior which is dominated by adults with an age range of 20 – 30 years. From the equation of the research results, it can be said that this research strengthens the results of previous studies.
CONCLUSIONS

The conclusion of this study from all the results of data analysis and discussion are as follows. The variable financial inclusion (X) influences financial behavior (Y). This can be seen from the value of P - Value 0.000 < 0.05. These results explain that the first hypothesis which states that financial inclusion has an effect on financial behavior can be proven or H1 is accepted. Self control variable (Z) that is able to moderate or strengthen the relationship of financial inclusion (X) to financial behavior (Y). This can be seen from the value of P - Value 0.000 < 0.05. These results explain that the second hypothesis which states self control moderates or strengthens the relationship of financial inclusion to financial behavior can be proven or H2 is accepted.

REFERENCES
