ABSTRACT

Recent development such as the increase in cost of living and the expansion of consumerism culture had led to many households facing precarious financial position. The competing explanations for this phenomenon are households are not practicing responsible financial behavior, versus the low and stagnant income in comparison with the increasing cost of living. This study aims to examine the determinants of household financial position, using Structural Equation Modeling as the tool of analysis. The data is collected through a self-administrated survey distributed among urban household in Klang Valley, Malaysia. The findings showed that demonstrating responsible financial behavior is the most dominant determinant of having a good financial position. In turn, responsible financial behavior is strongly related to having sound financial knowledge. For policy purposes, this implies that equipping household with financial knowledge and educating them on the need to practice good financial behavior could prove useful in approaching the issue of financially troubled households.

1. INTRODUCTION

Financial environment is getting more challenging, not only for financial institutions and business communities but also for households and individuals. Friendly credit environment, both in terms of credit availability and in terms of more tolerant attitude towards credit could lead to mismanagement of financial resources such as overspending and overborrowing. Lending decision is based on future income expectation, and a given interest rate. Yet, real income is subjected to shocks and interest rate is subject to changes and this will alter the loan installment. At the same time, cost of living is increasing not only due to the unavoidable changes in prices of goods and services but also in terms of the increasing needs on goods and services. This is partly due to psychological factors such as having high aspirations level and the urge to keep up with “better” others in the society. From another perspective, state withdrawal from providing the usual publicly provided goods such education, healthcare, free highways and security or the decrease in the quality of those state provided goods, too lead to an increase in the cost of living among households.

Facing this situation, when the needs keep on increasing but the increase in income is not increasing at the same pace, and credit is available, households are exposed to the risk of financial mismanagement. This is part of the reason provided to account for the increase in bankruptcies rate, especially for credit card bankruptcies among the younger population. Malaysia is not spared from this devastating development. The number of individuals declared bankrupt keeps on increasing over the years, from 13,907 in 2008, to 16,228 in 2009 and the figure reached 18,119 in 2010, (Bank Negara Malaysia). According to the statistics by Malaysia Department of Insolvency (MDI) the highest bankruptcy case relates to failure to settle hire purchase loans and personal loans. Most borrowers who were declared bankrupt aged between 25-44. There is also an increase in the case of “loan sharks” related crime, reflecting an increase in borrowing from the informal financial sector.

This dismal statistics has spurred a lot of interest in this issue, both to understand the root of the problems, identifying possible measures and implementing the appropriate policies. In the same vein, this issue has motivated us to undertake this research to understand the determinants of household financial position in Malaysia. Our particular interest is to examine the competing possible explanations, that is it lack of resources (income) or irresponsible financial behavior that lead households to face financial trouble.

1. THEORETICAL CONSTRUCT

Financial Behavior and Financial Position

Most studies in financial behavior focus on understanding what explains responsible financial behavior and whether financial behavior matters for household financial position. Household financial behavior refers to how household manage their financial resources, such as planning, budgeting and savings, while financial position is defined as household financial well-being, that is associated with the ability to provide for household needs and meeting financial obligations. Common findings are sound financial management is positively related to financial position and even financial satisfaction. Those who adhere to responsible financial behavior report a lower level of financial difficulties (Joo and Grable, 2004; Lea et al, 1995, Dowling et al, 2009) and higher financial satisfaction (Joo and Grable, 2004; Kim et al, 2003; Parotta and Johnson, 1998). This signifies the importance of financial position in ensuring household financial well-being. Even, Joo and Grable (2004) find that financial behavior has the most dominant impact on financial satisfaction, greater then that of income.
Determinants of Financial Behavior
This fundamental role of responsible financial behavior on financial position signals the importance of understanding what explains responsible financial behavior. A factor that is most prominent is having sound financial knowledge, with the hypothesis that knowledge would positively influence behavior. The findings regarding the relationship of these two variables is conclusive, with all studies find that having financial knowledge do influence individuals to behave in a more financially responsible ways, (Hogarth and Hilgert, 2002; Hilgert et al 2003; Perry and Morris, 2005 and Grable et al, 2009).

Financial Knowledge
Theoretically, making sound financial decision requires considering a myriad of details such as interest rates, costs, prices, discount rates and time horizons. Unfortunately, many sources of financial information are complex and inaccessible to the average consumer. Consumers have to search for the relevant information and in order to do so, they need to know what are the details that they are looking for. In other words, they need to be knowledgeable in order to make sound financial decision. Otherwise, they will end up making unwise decision, demonstrating irresponsible financial behavior such as being delinquent in debt repayment and having unpaid bills. This refers to Dunning-Kruger effect where people who do not know much tend not to recognize their ignorance, hence fail to seek better information. Where empirical support is concerned, thus far, studies are in agreement on the significance of having financial knowledge and responsible financial behavior. Among others, are those by Perry and Morris (2005), Grable et al (2009), Hilbert et al (2003) and Hogarth and Hilbert (2002) and Chen and Volpe (1998). Lusardi (2008)’s result shows that savings, an indicator of responsible financial behavior is also determined by financial literacy. While Hayhoe et al (2005), Mandell (2006) and Xiao et al (2010) report that having financial knowledge reduces the chance of engaging in risky credit and paying behavior such as holding more than four credit cards (Hayhoe et al, 2005) and bounce a check (Mandell, 2006). Hence, we include financial knowledge in understanding the interaction between factors that influence financial behavior, with the hypothesis, there is a positive direct relationship between financial knowledge and financial position through the knowledge induce positive behavior path.

Locus of Control
Locus of control refers to individual beliefs on the capacity of their own actions to determine the final outcomes. Where financial behavior is concerned, it reflects whether individuals are positive that if they manage their finances well, they would be able to achieve the intended outcome which is financial satisfaction or stable financial position. There are two extremes of locus of control, internal versus external, (Grable et al, 2009). Individual with internal locus of control strongly believes that it is their own financial practices that will determine their financial well-being. Hence, individuals with this personality tend to exhibit more responsible financial behavior. On the other hand, those with external locus of control possess strong conviction that their destiny is largely determined by factors beyond their control such as luck, fate and chance. Given that life events, in their perceptions are determined by random and external forces, they are not motivated to demonstrate responsible financial behavior such as controlling spending, careful budgeting and financial planning.

Cosma and Pattarin (2010), Livingstone and Lunt (1992), Tokunaga (1993) and Wang et al (2011) included locus of control as a factor that determine household debt behavior but with mixed findings. While Livingstone and Lunt (1992) and Tokunaga (1993) report that those with higher locus of control tend to have higher debt, Cosma and Pattarin (2010) find that locus of control is not a significant determinant of debt decision; while Wang et al (2011) find that those with internal locus of control tend to have more debt, possibly because they are more confident of their ability to manage debt. Studies such as
Hira and Mugenda, (1999) and Perry and Morris (2005) and Grable et al (2009) include locus of control as a factor that explain financial behavior or financial position. They consistently find a negative relationship between external locus of control and responsible financial behavior. In addition, they provide supportive evidence that locus of control mediates the effect of financial knowledge in the sense that given similar level of financial knowledge, those with external locus of control tend to demonstrate less control over their finances. In line with this reasoning, this study will test the hypothesis: there is a negative relationship between external locus of control and responsible financial position, because those with external locus of control would tend to demonstrate a less responsible financial behavior.

Income
Aside from that, previous studies (Hilgert et al, 2003; Perry and Morris, 2005) provide empirical support for the hypothesis that having higher resources results in better financial behavior. Lea et al (1987) and Livingstone and Lunt (1991) show that recurrent savings is positively related to income, while Nyhus and Webley (2001) find household savings increase with family income. Livingstone and Lunt (1992) claim that debt delinquencies are also determined by income. Based on these findings, income is included as a possible determinant of responsible financial behavior. In addition, we argue that having higher financial resource, that is income, will directly results in a better financial position.

Ethnicity
The inclusion of ethnicity follows the argument by Perry and Morris (2005), who claim that it is a common perception in the field of financial services that different races behave differently in managing their finances. Although this finding is supported by Grable et al (2009)’s findings on the differences between Korean and the Americans financial behavior, the findings from Perry and Morris (2005) is mixed. In addition, specific research on financial behavior in Malaysia suggests that there exist differences in financial behavior among various ethnics, for instance Parsa (2008) report that being a Chinese significantly explains individuals’ financial behavior. Hence, the need to examine whether there is any role of ethnicity or culture in financial behavior and consequently, financial position.

Taken into account all those factors, we construct a model where the main equation is financial position is determined by income, locus of control, financial behavior and financial knowledge as well as ethnicity to capture cultural differences. Given the crucial role of financial behavior as suggested by previous studies, we would also be examining the factors that explain responsible financial behavior. In other words, we are looking at financial behavior as the mediator. Similarly, we believe that knowledge, other than its direct effect on financial behavior, is capable of inducing positive impact on financial behavior, given similar income, ethnicity and locus of control. Hence, financial knowledge is also positioned as a mediator between those factors and financial behavior. The hypothesized model is summarized in Figure 1.
FIGURE 1: HYPOTHESIZED STRUCTURAL EQUATION MODELING FOR FINANCIAL BEHAVIOR AND FINANCIAL POSITION (INITIAL MODEL)

Note: er = error

2. RESEARCH METHODOLOGY

Structural Equation Modeling (SEM) was used to test the hypotheses. The modeling is a combination of exploratory factor analysis and multiple regression (Ullman, 2001). SEM was chosen due to its capability to link latent variable with its observed variables and with other latent variables. Since both financial behavior and financial position cannot be measured directly, SEM is a suitable statistical modeling to find the relationship between them. The hypothesized model consists of three latent variables and 22 observed variables (see Table 1).

Confirmatory Factor Analyses (CFA) was conducted for each unobserved variable to verify the suitability of the identified variables to represent correspond latent variable. Both CFA and SEM are conducted with IBM SPSS Amos 19 using Maximum Likelihood as estimation procedure. Since the data set contain missing data (<1% for each variables), the saturated model and independent model was fitted for computing fit measures. Other statistical analyses are conducted with IBM SPSS Statistics 19.

Data Sources and Description

Data analysis is done using primary data collected through a self-administrated survey conducted between January and April 2011. Stratified multi-stage sampling method was used thus ensuring that socio-economic and geographical considerations are taken into account to reflect the population of urban working class. A sample of 1000 randomly selected head of household (HoH) lives in Klang Valley, Malaysia were approached in public places by a group of research assistants to fill up a questionnaire form. The form was printed in the official language of the country which is the Malay language. Pilot test was conducted in December 2010 using convenient sampling with sample size of 30. Based on the result of the pilot study, the modification of the questionnaire was done. The hard copy of information was transferred into IBM SPSS Statistics 19. After screening and data cleaning, only 916 questionnaires were usable.
Measure of Construct

Financial knowledge was examined by asking, “How would you rate your financial knowledge?” on 5-Likert scale, from excellent to poor, following Joo and Grable (2004). Except for income and ethnicity, the rest of the observed variables were measured by how frequent the respondent had taken the actions using 5-likert scale ranging from 1 as never to 5 as always. Hence, a higher score indicate a more responsible financial behavior. As shown in figure 1, several observed variables are attached to each of the latent variables.

The measure of construct for Locus Control follows Cosma and Pattarin (2010) where a higher scale indicate the more external an individual (head of household) is. We combined the items from Fitzsimmons et al (1993) index on Frequency of Financial Problems and selective items from Joo and Grable (2004) that reflects financial difficulties, instead of financial behavior; in measuring household financial position. It measures household ability in meeting their needs and their liquidity (cash) balances. The higher score indicate a more troubled financial position. The items are listed in Table 1.
TABLE 1: LIST OF VARIABLES IN THE MODEL

<table>
<thead>
<tr>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Latent Variables:</strong></td>
</tr>
<tr>
<td>FinBhv</td>
</tr>
<tr>
<td>FPosition</td>
</tr>
<tr>
<td>LC</td>
</tr>
<tr>
<td><strong>Observed Variables:</strong></td>
</tr>
<tr>
<td>A1</td>
</tr>
<tr>
<td>A2</td>
</tr>
<tr>
<td>A4</td>
</tr>
<tr>
<td>A5</td>
</tr>
<tr>
<td>A11</td>
</tr>
<tr>
<td>C20</td>
</tr>
<tr>
<td>C21</td>
</tr>
<tr>
<td>C22</td>
</tr>
<tr>
<td>C31</td>
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<tr>
<td>C24</td>
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<tr>
<td>C25</td>
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<td></td>
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<td>D17</td>
</tr>
<tr>
<td>D18</td>
</tr>
<tr>
<td>D19</td>
</tr>
<tr>
<td>D20</td>
</tr>
</tbody>
</table>

3. FINDINGS AND DISCUSSION

Socio-Economic Profiles of Respondents
The distribution of respondent by gender is almost equal with 49% male and 51% female. Majority of them are Malay (57%) followed by Chinese (28%) and Indian (14%). The mean age was 33 years old with a standard deviation of 11.7 years. Three-quarters of respondents were in their 40s or younger. Only small proportion of them never had formal education (2.4%). The largest group of respondent had a greater than high school level of education such as certificate, diploma, bachelor or graduate (58%). Most of them are payroll worker (68 percent). Household income less than RM5000.00 per month form 77% of the sample. Majority of them (75%) had medium household size with six household members including four members aged less than 18.
Measuring Financial Position, Financial Behavior and Locus Control

Test statistics for skewness and kurtosis for all observed variables is between 2 and -2. Hence the normality condition of the data is fulfilled. The hypothesized CFA models are found to be fit with the data as shown by various indicators (see Table 2). No modification of model is done except for the financial position. In the CFA model for financial position, three variables were correlated to improve the model. The final CFA models for the three investigated latent variables are shown in Figure 2. Even though the \( \chi^2 \)

goodness-of-fit statistics is significant for all three hypothesized CFA models, the value of RMSEA (less than 0.1) and baseline comparison indices (more than 0.9) suggest that the model is fit, (Schreiber et al., 2006). This concludes that the proposed observed variables identified for measuring financial position, financial behavior and locus control are significant. The standardized parameter estimates and variances for models are presented in Figure 2.

TABLE 2: SELECTED AMOS OUTPUT FOR THE HYPOTHESES CFA MODEL (FINAL MODEL)

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Observed Variables</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>RMSEA</th>
<th>NFI</th>
<th>RFI</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus Control</td>
<td>D17,D18,D19,D20</td>
<td>6.886</td>
<td>2</td>
<td>.047</td>
<td>.993</td>
<td>.964</td>
<td>.995</td>
<td>.974</td>
<td>.995</td>
</tr>
</tbody>
</table>

Note: \( \chi^2 \)=Chi-square, df=degree of freedom, RMSEA=Root mean square error of approximation, NFI=Normed fit index, RFI=Relative fit index, IFI=Incremental fit index, TLI=Tucker-Lewis coefficient, CFI=Comparative fit index
FIGURE 2: OUTPUT PATH DIAGRAM FOR HYPOTHESES CFA MODEL.

CFA for Financial Position

CFA for Financial Behavior

CFA for Locus Control

Note: FinPos=Financial Position, FinBhv= Financial Behavior, LC= Locus Control, er=error.
Standardized Regression Weights estimates are provided in Figure 2. The squared multiple correlation values are also provided at the upper right of each observed variable. Among ten observed variables used to measure financial position, 59 percent of its variance represented in C21 and 2 percent from C14.

Factors Related To Financial Position
Findings from the path analysis are presented in Figure 3.

FIGURE 3: HYPOTHESES TIME STRUCTURAL EQUATION MODELING FOR FINANCIAL MANAGEMENT AND FINANCIAL POSITION (FINAL MODEL)

Note: \( \chi^2 = 984.964, \text{df} = 160, \text{RMSEA} = .068, \text{NFI} = .858, \text{RFI} = .813, \text{IFI} = .878, \text{TLI} = .839, \text{CFI} = .877 \)

Direct Effects

Financial Position
The findings suggested that self-perception or individual’s locus of control, income and financial behavior determined household financial position. Specifically, those with internal locus of control tend to have better financial position. This suggests that those who believed that they could control their financial situation will display more responsible financial management. This is consistent with other findings such as by Hira and Mugenda, (1999) and Perry and Morris (2005) and Grable et al (2009). Higher household income and those with more responsible financial behavior also led to better financial position. No direct effects were found from financial knowledge and ethnicity on financial position.
Financial Behavior
As our initial hypothesis, it was determined that financial behaviors were related to income and financial knowledge. Both were positively related, indicating that having financial knowledge led to practicing responsible financial behavior while household with higher income is related to more responsible financial behavior.

Indirect Effects
The analysis showed indirect effects from financial knowledge and income to financial position, as well as from income to financial behavior. The former indicated that having financial knowledge led to a better financial position, mediated by responsible financial behavior. While the later suggest that higher income households tended to demonstrate better financial behavior and the effect is greater if they have financial knowledge.

Total Effects
Total effects allow us to identify the merits of each determinant on financial position as well as on financial behavior. Table 3 presents the summary of direct, indirect and total effects. Household financial behavior has the largest impact on household financial position, yet the magnitude of the impact is only marginally higher than that of income and locus of control. On a further note, the impact from financial behavior is a direct effect, implying that practicing financial behavior per se is capable of producing that much positive effect on financial position. However, in the case of income and locus of control, the direct effect is much lower than that.

As for financial behavior, the most influential determinant is financial knowledge, followed by income. Similar to the case of financial position, the impact of financial knowledge on financial behavior is totally based on direct effects while the total effect of income on financial behavior came from its direct effect as well as with financial knowledge as the mediator.

### TABLE 3: DIRECT, INDIRECT, AND TOTAL EFFECTS BETWEEN VARIABLES

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>Direct Effects</th>
<th>Indirect Effects</th>
<th>Total Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Behavior</td>
<td>Ethnicity</td>
<td>-.009</td>
<td>.021</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>.232</td>
<td>.087</td>
<td>.319</td>
</tr>
<tr>
<td></td>
<td>Locus of Control</td>
<td>.001</td>
<td>-.019</td>
<td>-.017</td>
</tr>
<tr>
<td></td>
<td>Financial Knowledge</td>
<td>.485</td>
<td>-</td>
<td>.485</td>
</tr>
<tr>
<td>Financial Position</td>
<td>Ethnicity</td>
<td>.017</td>
<td>-.003</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>-.161</td>
<td>-.077</td>
<td>-.238</td>
</tr>
<tr>
<td></td>
<td>Locus of Control</td>
<td>.233</td>
<td>.004</td>
<td>.237</td>
</tr>
<tr>
<td></td>
<td>Financial Knowledge</td>
<td>.008</td>
<td>-.119</td>
<td>-.111</td>
</tr>
<tr>
<td></td>
<td>Financial Behavior</td>
<td>-.245</td>
<td>-</td>
<td>-.245</td>
</tr>
</tbody>
</table>

Generally, the findings from this analysis are in agreement with our initial hypothesis. They are also consistent with findings from other studies on household financial behavior for instance those with internal locus of control possessed better financial position, higher income led to better financial behavior and responsible financial behavior is associated with better financial position, among others, Joo and Grable (2004), Hilgert et al (2003) and Perry and Morris (2005). This suggests that what determines urban working class financial position, at least in the case of Klang Valley, Malaysia, is similar to other studies.
What can be inferred from this findings is household financial position could be improved by practicing responsible financial behavior such as setting aside money for saving and retirement, budgeting and minimizing financial surcharges. Although the model suggested that income and locus of control have impact of similar magnitude on financial position, yet the impact involves other mediators which are financial knowledge and financial behavior. This implies that effort to increase household income per se would not bring a huge improvement on household financial position. Furthermore, increasing household income at the aggregate level is difficult to achieve. Similarly, it is also hard to change individual’s locus of control as it involves changing one’s personality. Instead, educating household to practice responsible financial behavior might prove to be useful in improving household financial position.

This is further supported by findings on determinants of financial behavior. Having sound financial knowledge is associated with demonstrating good financial behavior, and the findings also dictated that financial knowledge had the most dominant impact on financial behavior, suggesting that equipping household with financial knowledge could led them to practice commendable financial behavior, which in turn could lead to an improvement in their financial position.

4. CONCLUSIONS

Motivated by the increasing number of bankruptcy cases in Malaysia, this study is undertaken to understand the determinants of household financial position. Of particular interest is the issue of whether practicing responsible financial behavior matters in having an acceptable financial position and what are the factors that are associated with demonstrating responsible financial behavior.

Our findings validated the relationship between financial position and financial behavior that has been established by previous studies. Household financial position is predominantly determined by the practice of good financial behavior as well as income and locus of control which represents household perception on their ability to control their financial destiny. In fact, financial behavior mediates the role of income in explaining financial position. As for financial behavior, responsible financial behavior is associated with having better financial knowledge and higher income.

Taken together, these implied that introducing financial education to household and promoting good financial practices could possibly help in reducing the compounding problems of increasing number of bankruptcies and household with precarious financial position. Although the findings also claimed the importance of income in determining household financial position, yet, where intervention policy is concerned, eradicating poverty or effort to increase income at large is more difficult to be implemented as opposed to channeling effort towards creating awareness and educating the general public regarding the need to practice good financial behavior in order to be financially stable.
REFERENCES


