The Influence of Financial Education on Consecutive Debt-taking Behaviour of Low-Income Households in Indonesia

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Abstract

Debt is considered as one of the major sources of funds from third party, especially for low-income households. Even though Islam allows debt, it should not be used recklessly. Taking one debt after another is apparently not suggested for the low-income households although it is common among them. In order to understand the consecutive debt-taking behaviour among the low income households in Indonesia as well as the role of financial education in influencing this behaviour, this study adopts the Structural Equation Modelling (SEM) to analyse pertinent data elicited from 1,780 low-income households from six areas in Indonesia. The study finds that financial education has positive effect on using debt consecutively albeit wisely for fulfilling family needs. By wisely, it means that the low income households are able to control their desire and satisfaction, thus practicing the true spirit of consumption as proposed in Islam.

Keywords: financial education, financial inclusion, debt-taking, low income households, Indonesia

1. Introduction

Taking debt by the Muslims is subject to several considerations. Obaidullah (2008) stated that while debt is permitted in Islam, it must be treated as the last resort for a Muslim to get financial assistance after other possible options have been exhausted. Mohammed (2011) stated that Muslims should be discouraged to incur debt but rather encouraged to save due to the fact that while savings refrain current consumption for better future consumption. Conversely, debt-taking reflects using future income for present consumption, thus leaving the heir in a worsened situation. Also, from the economic perspective, current consumption based on financial optimism of better and higher future income can be quite risky as the financial improvements might not be realized due to various possibilities such as economic and financial shocks, or even future uncertainties such as sickness and death (Arsyianti and Kassim, 2016).

Household financial behaviour has the power to influence the economy. In the current context of the financial system, households finance their assets internally through relying on their net worth (accumulation of personal income) and externally through bank, non-bank and other liabilities. When households could not fulfil through their net worth, they would find external sources to fund their consumption and investment (Santoso and Sukada, 2009). Gaberlavage and Hermanson (2001) found that even though payday lenders, pawnshops and leasing agency give an easier access to cash, they cost higher rate for credit than those institution who offer deposits and credit card. Goode (2012) reported that the most common debt was credit card, followed by instalment payments, bank/building society loans, bills and overdraft, and some may take doorstep lenders and credit union.

These supply and demand activities are prone to several risks that may make the economy vulnerable by affecting the balance sheet of the various economic units (Allen et al, 2002). Households and sectorial balance sheet are facing the risks of maturity mismatches where the liability due cannot be covered in short term either because of incapability to fulfil the contract commitments or the increasing risks on interest rate. They also face currency mismatch (exposure of foreign exchange risk), capital structure problem (cash flow vulnerable due to heavy debt rather than equity in their financing), and solvency

problem (where the total assets are inadequate to cover liabilities). Households face maturity mismatch and solvency problem risks. Since today's creditworthiness of the applicants is assessed by credit assessment and default risks (Belsky and Calder, 2005). As such, debt, for the low-income households becomes an issue that are important to be addressed. Learning from the US crises in 2008, when the subprime mortgage struck the US and entire world economy, the perception of the lower-income households about the issue should be deeply elaborated, especially in their behaviour in applying debts as well as their willingness to pay.

During the Asian financial crisis of 1997/1998, Kohsaka and Enya (2006) stated that the debt behaviour of the private sector, including corporates, households, and financial institutions are jointly responsible for the fundamental reason of crisis rather than fiscal disparity in Pacific region and it spread to all other sectors. Prior to the Asian 1997-1998 financial crisis, households in Indonesia, Korea, Malaysia and Thailand enjoy a high disposable income. As the asset prices went up, the households started to reduce their savings and increased their debt. As reported by the Economist (2014), household debt in Thailand has been increasing the most, followed by Malaysia, Singapore and Indonesia in the South East Asia region. In terms of debt ratio per Gross Domestic Product (GDP), Malaysia was the highest at 81 percent by the end of 2012, followed by Thailand (68 percent), Singapore (61 percent), and Indonesia (17 percent). When the crisis hit the region, it affected the real economic sector, resulting in decreasing employment rate and lower disposable income. This situation, to some extent, increased the debt service burden and decreased household consumption sharply. Although Indonesia's rank was the lowest among others, the highest population of Muslim low-income households were living in Indonesia. Thus, it is crucial to study their behaviour in this region.

In general, Benito (2007) concluded that financial stability should focus on household sector, particularly household debt, since this sector influence the prospect of an economy. Debt can affect household net worth, and by the risks depicted, aggregate outcomes may be affected through the outstanding debts and its distribution.

Debt also resulted in individuals to consume more than their income. At some level, debt can be bad to a consumer especially when highly indebted persons no longer become creditworthy, lenders reduce their lending or even up to stop it, and then consumption and investment bear the consequences. If that condition continues to fall down to certain level, economy would face the increase in default, short of demand, and unbearable rate of unemployment (Cecchetti et al, 2011).

Mann, Narayanan, Caparusso, & Chandra (2013) show the Indonesian debt growth of the government, private, and household sectors presented in debt per GDP ratio. It indicates that household sector is the fastest growing among others. Households in Indonesia with the disposable income of 1.22 up to 3.65 million rupiah (approximately 100-300 US dollar) have the highest debt service ratio which is 27.97 up to 34.67 percent (Bank Indonesia, 2014a). This income group comprised of the lowest 40 percent of Indonesian population and with the highest debt service ratio, they are the most vulnerable segment of the Indonesian population.

Looking at debt behaviour of the households, liabilities in household primarily consist of loans used mostly for domestic consumption. Most of the loans are used for vehicle and housing purchases (Standard Chartered, 2013). It means that fulfilling their basic domestic needs is still the reason for households to incur debt and ones who need this kind of debt are those who live in low-income households. Indeed, building credit is one way to build assets in low-income communities (Belsky and Retsinas, 2005).

In Islam, debt has many consequences that should be borne by the debtor. It should be treated as the last resort to get asset, not simply to apply for it. One should have strong intention to paying back the debt. Brown *et al* (2005) found that financial optimism (optimistic in financial expectation) positively impact the amount of outstanding debt. Moreover, Keese (2012) suggested that subjectively perceived debt burdens may occur not only because of household budget reasons but beyond financial matters, i.e. psychology reasons. Those reasons are attitudes towards debt and financial expectation (Keese, 2012; Brown *et al*, 2005; Ahmed *et al*, 2010). Loan amount then also can become the indicator of financial satisfaction (Sahi, 2013).

Therefore, this study attempts to explore the perception of the low-income households regarding consecutive debt-taking behaviour and whether financial education significantly affects such behaviour.

2. Literature Review

In order to have an understanding about low-income households in Indonesia, a glimpse overview about economy and financial activity in Indonesia is provided. According to the Central Board of Statistic (Badan Pusat Statistik) (BPS), 2014, the average of minimum wage of Indonesians per month as at February 2015 was Rp 1,702,185 (around USD 126), of which Jakarta recorded the highest amount, followed by West Papua and North Sulawesi. The average wage per month was Rp 1,981,725 (around USD 147), which Papua offered the highest average, followed by Jakarta and East Borneo. If in 2012, the average living cost in Indonesia was Rp 5,580,037 (around USD 413.34) and the average inflation rate was 5.99 percent, the average living cost in 2015 would be around Rp 6,643,795 (approximately USD 492.13). By looking at this figure, even the highest average wage which was offered by Papua (Rp 3,114,182 or around USD 230.68) could not be compared to the average cost of living in Indonesia.

For monthly expenditure, nonetheless, every Indonesian spent Rp 843,736 (around USD 62.5) per month on average. Meanwhile, the expenditure for food was Rp 391,938 (around USD 29.03) per month on average. It was less than 50 percent, i.e. 46.45 percent. This figure was used as the base line of poverty, which is equal to 2100 kilocalories per day per capita or 4500 kilocalories per day per household.

In 2014, poverty line in urban area was Rp 326,853 (around USD 24.21) per month, and rural area was Rp 296,681 (around USD 21.98) per month. However, poverty in rural area was higher than urban area, 13.76 and 8.16 percent respectively. Four provinces in the eastern part of Indonesia had the highest rate of the poor compared with other parts in Indonesia, i.e. West Papua (27.80 percent), Papua (26.26 percent), Eastern South-East Nusa (19.60 percent), and Maluku (18,44 percent). The highest rate of the poor in central part of Indonesia was in Central Sulawesi (17.41 percent). Meanwhile, in the western part of Indonesia, it was Bangka-Belitung Islands (17.09 percent) and Aceh (16.98 percent). Even though Papua offered the highest average income, the highest rate of the poor were also living there.

In terms of financial activities, age group of 15 years old and above still depended on family and friends for funding emergency events. Almost half of the population were reliant on their family and friends as the source of financing. Other sources were private informal lender, financial institution or credit card, savings, work or loan from employer, and other possible sources (see Table 1.1).

Table 1. Financial Activities Done by Age Group of 15 Years Old and Above

Financial Activities	Categories	%
Borrowed from a financial institution		13.136
Borrowed from a private informal lender	Age 15+	2.942
Borrowed from a store by buying on credit		3.468
Main source of emergency funds: private informal lender		0.607
Main source of emergency funds: other		5.282
Main source of emergency funds: financial institution or credit card	Able to raise funds, age 15+	1.454
Main source of emergency funds: family or friends		49.391
Main source of emergency funds: savings		28.149
Main source of emergency funds: work or loan from employer		13.503

Source: World Bank (2015)

2.1 Profile of Low Income Households in Indonesia

Indonesia classification of income is not found in specific category. Nord (2007) that denoted low-income as those whose annual income was less than 130 percent of the poverty line, and at least one or more household's members are employed. World Bank (2013) also classified the economy based on annual generated income. There were some studies exploring low-income group. For example, Kakisina (2011) described poor households in Indonesia were having low production and productivity, more children than non-poor households, low education attainment, having small land, limited capital, low technology used for business, low income, and other local indicators.

There are also some discussion regarding household welfare characteristics as studied by (Hartoyo and Aniri, 2010). They elaborated households based on BPS, the National Coordinating Agency for Family

Planning Program (Badan Koordinasi Keluarga Berencana Nasional, abbreviated by BKKBN), and Socio-metric. BPS differentiates households into poor and non-poor groups based on poverty line. Poverty line determined by using basic need approach. BKKBN segregates households into five categories based on welfare indicators. The categories are pre-welfare, welfare 1, welfare 2, welfare 3, and welfare 3+. The indicators are: 1) daily meals (twice a day or more); 2) household's members attire for daily use, school/work, and traveling; 3) floor materials; 4) beef, fish, or eggs weekly consumption; 5) new clothes generated within a year; 6) 8 meter square-wide housing unit for every member. Meanwhile, Socio-metric uses 8 indicators: food security, education, health-services, housing, social capital, empowerment, literacy, and vulnerability of the household.

In terms of income characteristics, income generated by households in Indonesia consists of the income generated both by the head and members of households. It is included the income earned as the reciprocal of benefiting production resources, as well as a transfer given by other parties (BPS, 2015). Transfer given is referring to subsidies and government policies on programs helping their lives (Dowsett, Huston, and Imes, 2009).

Ministry of Finance Republic of Indonesia (2013) and Bank Indonesia (2014b) described low-income households as their target audience of National Strategy for Financial Inclusion. The low-income households were divided into three categories based on ability to save, access to credit, risk management profile, transfer payment mode, financial literacy, and financial identity profile. Those three categories are the poorest, the poor, and the nearest poor. Meanwhile, based on World Bank classification, Indonesia low-income population profiles of their financial activities are summarized in Table 2. Low-income population were those in the group aged 15 years old and above whose income was categorized as the poorest 40 percent.

This study, however, uses *muzakki-mustahik* approach in categorizing the households. Yet, in the context of determining the income thresholds, this study uses household poverty line of BPS as the benchmark. Since, *mustahik* has higher *nisab* threshold than household poverty line, *nisab* threshold is used as prerequisite of respondent characteristic. Thus, those whose income is above *nisab* cannot be a respondent of this study. Nisab threshold is Rp 5,240,000.00 (around USD400).

Table 2. Financial Activities of Low-Income Population in Indonesia

Financial Activities	%
Account at a financial institution	21.938
Account	22.216
Borrowed any money in the past year	57.959
Borrowed from a financial institution	11.330
Borrowed from a private informal lender	3.153
Borrowed from a store by buying on credit	4.167
Borrowed from family or friends	43.767
Coming up with emergency funds: not at all possible	38.134
Received government transfers in the past year	25.421
Received wages in the past year	29.436
Saved any money in the past year	55.603
Saved at a financial institution	13.797
Saved for future expenses	21.255
Saved for emergencies	22.219
Used an account at a financial institution to receive wages	1.598
Used cheques to make payments	0.404
Used the Internet to pay bills or buy things	2.253
Used electronic payments to make payments	1.027

Source: World Bank (2015)

Table 2 shows us that Indonesia low-income population borrowed more (57.959 percent) than saved their money (55.603 percent) in the past year. The borrowing activities could have been done by themselves or together with others, according to World Bank definition. They used financial institutions more for saving than for borrowing, however, the rate were still less than 15 percent, which were 13.8 percent and 11.33 percent, respectively. Family and friends were the main source of borrowing money among the low income group.

Services provided by financial institutions such as for receiving wages, making payments by cheque, paying bills through internet banking, and other electronic devices are not widely used by the low-income

population. Only 21.9 percent of the low income population involve in even very simple transactions such as having an account in financial institutions. This implies that the use of financial services should be more optimized. If they could use the services, they might involve in real transaction more than before, thus increase economy activities. Therefore, they need to be educated in order to involve more often in financial activities offered by formal financial institutions, i.e. financial inclusion. Nonetheless, socioeconomic factors affecting consecutive debt-taking behaviour are summarized in the following table.

Table 3. Socioeconomic Factors Affecting Consecutive Debt-taking Behaviour

No.	Factors	References	Hypotheses
1.	Education level	(Chien & Devaney, 2001)	Higher education level (high school and above) are having higher possibility of taking debt.
2.	Age	(Plagnol, 2011) (Livingstone & Lunt, 1992) (Keese, 2012) (Chien & Devaney, 2001)	Older people (45 years old and above) are taking more debt, but at some level, younger people might have more needs, thus taking more debt.
3.	Marital status	(Pressman & Scott, 2009) (Brown, Garino, Taylor, & Price, 2005)	Married people are having lower debt.
4.	Household size	(Plagnol, 2011) (Keese, 2012) (Livingstone & Lunt, 1992)	The bigger household size, the higher the debt
5.	Employment status	(Pressman & Scott, 2009) (Keese, 2012) (Bertola et al., 2006)	Unemployed people tend to have higher debt, but for uncertain period, unemployed people might limit their debt.
6.	Origin	(Keese, 2009) (Keese, 2012) Arsyianti & Beik (2015)	Those who stayed in big cities having more debt than stayed in small town.
7.	Charity per income	(Mohammed, 2011) (Arsyianti & Kassim, 2015)	Debt was affecting charity, but not necessary vice versa.
8.	Expectation of future household (domestic) economy situation	(Brown et al., 2005) (Keese, 2012) (Arsyianti & Kassim, 2015)	Optimist people were having more debt than pessimist people.
9.	Income	(Livingstone & Lunt, 1992) (Pressman & Scott, 2009) (Keese, 2012)	The bigger the income, the lower the debt.
10.	Religious activity	(Sipon, Othman, Ghani, & Radzi, 2014) Qur'ān 70:19-23 (Georgarakos & Fürth, 2015)	Religious people who perform *ibadah* tend to have lesser debt than those who are not religious.
11.	Gender of head of household	(Xiao & Wu, 2008) (Keese, 2012) (Sahi, 2013) (Lea, Webley, & Levine, 1993)	Not significant except for the perception of debt burden that female reported more in "major burden" than male.
12.	Financing institution	(Balkenhol & Schutte, 2001) (Aryeetey, 1998)	Low-income households were having more debt from informal financial institutions
13.	Home ownership	(Keese, 2012)	Both home owners and tenants were having positive relationship with debt service, but different variance.
14.	Financial education	(Halim, Hamid, Azmin, & Nordin, 2001) (A. C. Lyons, Chang, & Scherpf, 2006) (Martin, 2007) (Hogarth, 2006) (Mandell & Klein, 2009)	Financial education affects financial behaviour

3. Methodology

This research takes several samples from the above population by using cluster sampling method since the population size is unknown due to the availability of data. Dompet Dhuafa gave their data of the recipients of charity (zakat, sadaqah, waqf) funds. However, BAZNAS could not give the data to the researcher up-until this study was conducted. They argued that BAZNAS representative of all provinces in Indonesia have yet to give the Central BAZNAS the comprehensive data. Currently, they are having a consolidation regarding data collection from all over Indonesia and it is still in the process.

According to Cochran (1977), when there is no complete or up-to-date list of population, cluster sampling is most appropriate to solve the problem. Further discussion regarding sample will be elaborated in the next session. Respondents are selected during their visits to BAZNAS and Dompet Dhuafa offices.

The data collection is conducted in April until August 2016. Data is collected from six areas representing western, central, and eastern part Indonesia. They are Aceh, Jabodetabek (Jakarta, Bogor, Tangerang, Bekasi), Yogyakarta, East Borneo, Central Sulawesi, and Eastern South-east Nusa (Nusa Tenggara Timur). Questionnaires have been distributed to 1800 respondents and 1780 are used in the analysis.

3.1 Quantitative Method

Structural Equation Modelling (SEM) can be used to examine a series of dependence relationships simultaneously. Basically, SEM combines both factor analysis and multiple regression analysis (Hair et al., 2006). The software used to calculate the data is the SPSS 17.0. The method allows testing hypotheses (confirmatory) among latent/construct and observed variables (Byrne, 2009; Hair et al., 2006). It is widely used in the area of social science such as education, behaviour, and psychology, but it is also not limited to economist, biologist, medical researchers, and marketing (Abduh 2012).

   Hair et al. (2006) suggests that at first stage individual constructs should be defined and the measurement model should be developed as well as specified. According to Ajzen (1991), the behaviour was affected by attitudes, subjective norms, and perceived behaviour control through its intention. Apart from this model, demographic factors are predicted to have the an indirect relationship to behaviour through those three groups: attitudes (Chien and Devaney, 2001), subjective norms, and perceived behaviour control (Xiao and Wu, 2008). Thus, this research use socioeconomic and demographic factors to predict their relationship with the behaviour through attitudes, subjective norms, and perceived control of consecutively taking debt behaviour. Furthermore, Siegwart Lindenberg introduced Social Production Function (SPF) theory (Lindenberg, 1996; Ormel, Lindenberg, Stevererink, and Verbrugge, 1999) which integrates both psychological and economic theories of consumer/household production. The word production here occurs when Becker (1978) introduced household production function that household was more likely to take production role than consumption. Household was considered as an organizational entity, which is like corporate. In the context of finance, its ultimate output is to achieve financial, physical and social well-being which are represented by Liquidity, Asset to Liability ratio, and Debt Payment over Disposable Income (debt service) ratio (DeVaney, 1994), and lifestyle (Ormel et al., 1999).

   The stipulated model for elaborating consecutive debt-taking behaviour model, thus, consists of seven latent variables: Demography (A); Attitude (B); Subjective Norms (C); Perceived Behaviour Control (D); Intention (E); Behaviour (EB); and Outcomes (F). Among those latent variables, variable A is denoted as independent latent variable since it is not affected by any other latent variables. The rests are dependent latent variable. Meanwhile, observed variables consist of 53 variables.

   In general, SEM models are consisting of measurement model and structural model (Mueller, 1996; Diamantopoulos & Siguaw, 2000, Wijanto, 2008). Measurement model shows the relationship between manifest (observed) variables and its latent variable. Meanwhile, structural model indicates relationship among latent variables. In notation, they can be described as in the following equations.

$$\boldsymbol{\eta}_{(m \times l)} = B_{(m \times m)} * \boldsymbol{\eta}_{(m \times l)} + \boldsymbol{\Gamma}_{(m \times n)} * \boldsymbol{\xi}_{(n \times l)} + \boldsymbol{\zeta}_{(m \times l)} \tag{1}$$

Equation 1 shows relationships among latent variables. Where:

η (Eta)	indicates endogenous latent variable: Attitude (B); Subjective Norms (C); Perceived Behaviour Control (D); Intention (E); Behaviour (EB); and Outcomes (F)
ξ (Psi)	indicates exogenous latent variables: Demography (A)
B (Beta)	indicates structural coefficients from endogenous latent variable to another endogenous latent variable
$\boldsymbol{\Gamma}$ (Gamma)	indicates structural coefficients from exogenous latent variable to endogenous latent variable
ζ (Zeta)	indicates structural error terms

$$\mathbf{y}_{(p \times l)} = \boldsymbol{\Lambda}_{y(p \times m)} * \boldsymbol{\eta}_{(m \times l)} + \boldsymbol{\varepsilon}_{(p \times l)} \tag{2}$$

$$\mathbf{x}_{(q \times l)} = \boldsymbol{\Lambda}_{x(q \times n)} * \boldsymbol{\xi}_{(n \times l)} + \boldsymbol{\delta}_{(q \times l)} \tag{3}$$

Equations 2 and 3 show relationships between manifested variables and its latent variable (x for exogenous, y for endogenous), where:

λ (Lambda)	indicates loading between latent variable and its manifest variables (λ^X for exogenous, λ^Y for endogenous
δ (Delta)	indicates measurement error for exogenous variable
ε (Epsilon)	indicates measurement error for endogenous variable.

Demography factors for consecutive debt-taking behaviour are consisting of education level, age, marital status, and number of dependent. Other factors include employment, province of origin, religious activity, gender of household's head, charity per income, their future expectation of domestic economy, home ownership, their income, and their financial education level.

Attitudes factors consist of favourable, neutral, and unfavourable appraisal towards consecutively taking debt behaviour. It is developed from belief that people hold and should include cost and benefit effect (Ajzen, 1991). Bagozzi, Baumgartner, and Yi (1989) pointed out that attitude was about trying to do something rather than the actual behaviour itself. The scale of measurement can be 7 unipolar scale (Ajzen, 1991; Xiao and Wu, 2008) or five-grade Likert scale (Pattarin and Cosma, 2012; Chien and Devaney, 2001). However, for multivariate regression used in survey research, each group of cell should be kept approximately equal size and Hair et al. (2006) recommended 20 observations per cell. Therefore, this research adopted five-point Likert scale. Apart from observation size, it is also due to minimize measurement error when imposing too much scale while respondents only accurately respond to a few.

Keese (2009) stated that being indebted and over-indebted may fall in the same area of discussion. However, being indebted does not mean over-indebted although the debt service is high. People can fall into over-indebtedness when they immensely depends on external financial source including social security, and their disposable income cannot cover their debt due to their behaviour in taking debt consecutively. Pattarin and Cosma (2012) divided attitude into cognitive, emotion, and behaviour elements. Therefore, the items reflecting attitude in this study are as follow.

Table4 Attitude towards Consecutive Debt-taking Behaviour Items

Items	Notification	Coding
I will take debt after another (Keese, 2009)	Respondents are tested whether even though one debt has not paid in full, another debt is likely to be taken; need to pay current debt in full, then another debt will be taken; does not mater paying in full or not, another debt may be taken; current debt is enough; or, no need debt	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
Benefit: Consecutively taking debt will always meet household needs (Pattarin and Cosma, 2012; Keese, 2009)	Respondents are tested whether majority of needs paid by debt; a few of needs paid by debt; needs do not necessary paid by debt; do not like borrowing money; or, having debt is never a good thing	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
Cost: Taking debt will never have made worry (Pattarin and Cosma, 2012; Mandell and Klein, 2009; Keese, 2009)	Respondents are tested whether never care of having debt, does not matter to live with one's means; as long as can pay back in full, at least by insurance or the heirs; never feel worry in everything; debt should be paid as soon as possible; cannot pay in full, cannot be paid by the heirs, insurance cannot cover, and difficult to enter *Jannah*	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1

Subjective norm factors consists of the influence of referent individuals or groups. The referents are giving approval or disapproval towards performing taking debt consecutively. Subjective norms are strengthened by normative belief that the important others approve or disapprove regarding taking debt consecutively, as well as motivation to comply when the respondents cared whether the referents approve or disapprove.

Ajzen (1991) suggested that the important others included spouse, parents, close friends, and siblings. Respondents may take these people's consideration into their behaviour. Therefore, the subjective norms variable consists of the following elements.

Table 5. Subjective Norm towards Consecutive Debt-taking Behaviour Items

Items	Notification	Coding
I care that my spouse agree if I take another debt (Abduh, 2012; Xiao and Wu, 2008; Ajzen, 1991)	Respondents are tested whether definitely take another debt when my spouse agree to do so; take another debt when my spouse agree to do so; does not matter what my spouse agree of; would not take another debt even though my spouse agree to do so; or, never care about my spouse approval of taking another debt and would definitely not take another debt	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
I care that my parents agree if I take another debt (Abduh, 2012; Xiao and Wu, 2008; Ajzen, 1991)	Respondents are tested whether definitely take another debt when my parents agree to do so; take another debt when my parents agree to do so; does not matter what my parents agree of; would not take another debt even though my parents agree to do so; or, never care about my parents approval of taking another debt and would definitely not take another debt	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
I care that my siblings agree if I take another debt (Abduh, 2012; Xiao and Wu, 2008; Ajzen, 1991)	Respondents are tested whether definitely take another debt when my siblings agree to do so; take another debt when my siblings agree to do so; does not matter what my siblings agree of; would not take another debt even though my siblings agree to do so; or, never care about my siblings approval of taking another debt and would definitely not take another debt	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
I care that my close friends agree if I take another debt (Abduh, 2012; Xiao and Wu, 2008; Ajzen, 1991)	Respondents are tested whether definitely take another debt when my close friends agree to do so; take another debt when my close friends agree to do so; does not matter what my close friends agree of; would not take another debt even though my close friends agree to do so; or never care about my close friends approval of taking another debt and would definitely not take another debt	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1

Perceived behavioural control factors consists of control belief that comprises resources and opportunities, as well as obstacles and impediments (Ajzen, 1991). The factors can come from respondents' experience or second-hand experience of performing consecutive debt-taking behaviour. Pattarin & Cosma (2012) suggested the better feeling in life and idea can be included in the attitude items. Therefore, perceived behavioural control consists of the following elements.

Table 6. Perceived Behavioural Control towards Consecutive Debt-taking Items

Items	Notification	Coding
Taking debt consecutively makes your life better (Pattarin and Cosma, 2012)	Respondents are tested whether their life and also other's life definitely become better because of taking debt; their life and also other's life become better because of taking debt; do not mind taking debt consecutively for better life; it will ruin their life; or, it is harmful	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
It is a good idea to always have something now but can pay for it later (Pattarin and Cosma, 2012)	Respondents are tested whether it is definitely a good idea; do not mind; bad idea; or, definitely no.	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1
Eventually, somebody or some institution like insurance or *amil* can cover my debt, so it easy for me to take debt consecutively (Keese, 2009; Xiao and Wu, 2008)	Respondents are tested whether it is agreed, they think so; do not mind; they do not think so; or, no, they also would be disappeared someday.	Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly disagree = 1

Bagozzi et al. (1989) quoted some intention definitions which are related to volitional, determination, purpose, willingness, deliberateness to accomplish or attain. Meanwhile, Ajzen & Fishbein (1969) predicted intention as a respect or perception towards performance to a certain act. Ajzen (1991) mentioned further that intention was related to the extent of how hard and how much effort that an individual is willing to and planning to exert. Biasness overestimation of likelihood to perform the act

might exist and result in inconsistencies (Gopi and Ramayah, 2007). The likelihood of change in intention exists as the interval period is greater.

For physical well-being which is assessed by financial ratios, the indicators are as follows:

Table 7. Financial Ratio Indicators

Ratios	Definitions	Cut-off value
Liquidity ratio (Ross, 2003) $$\frac{cash}{current\ liabilities}$$	Ability of available cash in hand to meet debt that matured in the short term.	20% (Lins, Servaes, and Tufano, 2007)
Assets/liabilities (Ross, 2003) $$\frac{current\ assets}{current\ liabilities}$$	Ability of current assets (cash, savings, deposits, shares, liquid assets such as gold and other jewelleries, furniture, and other liquid assets which are readily marketable and convertible into cash) to meet current liabilities. (Saleem & Rehman, 2011)(Carney & Gale, 2001)	Must be at least 1 (Ross, 2003)
Debt service ratio (Keese, 2012) $$\frac{total\ debt}{disposable\ income}$$	In what level of debt that households bear in every 1 rupiah of their income	50% (Arsyianti and Kassim, 2015b)

As a precise number of financial statements might be difficult to capture from respondents, the ratios were presented in group that might represent the exact figure of each household. Therefore, threshold of each ratio were used to distinguish the binomial group.

Meanwhile, for social well-being the questions that were asked include: "I feel satisfied in this life and with my lifestyle, agree or not agree". The respondents would answer a binomial data type: agree = 1, not agree = 0.

Lastly, validity of structural model should be assessed. If the model was valid, the study could draw substantive conclusions and recommendations. If the model was not valid yet, the study might refine the model.

4. Results and Discussions

Convenient statistical program used in this research for performing SEM is LISREL (*LI*near *S*tructural *REL*ationships) 8.7, which is user friendly like AMOS and EQS, because it uses SIMPLIS language (Wijanto, 2008). It was developed by Karl G. Jöreskog and Dag Sörbom (Jöreskog and Sörbom, 1993); Diamantopoulos and Siguaw, 2000). The purpose of this software is to minimize fitting criterion (Kelloway, 1998) in explaining covariance structure analysis (Kelloway, 1998; Diamantopoulos & Siguaw, 2000). Thus it uses covariance-based SEM model in its analysis (Widarjono, 2015). Interface simplification feature of LISREL helps researchers in performing SEM without writing any computer code (Hair, Black, Babin, Anderson, and Tatham, 2006). Users are brought to the concept of "What does it mean?" rather than "How to do it?" (Jöreskog and Sörbom, 1993). When it executes path diagram, it automatically tidies up the latent figures. Thus researchers do not need to order it up to be seen nicer because of graphical interface (Hair, et.al, 2006). However, these automated latent figures are put on maximum second order only, which make the figures denser and compact if the confirmatory order is higher.

Five stages are desired in performing SEM (Bollen and Long, 1993; Kelloway, 1998; Mueller, 1996; Wijanto, 2008; Widarjono, 2015). Those stages are (1) Model Specification; (2) Model Identification; (3)

Parameter Estimation; (4) Assessment on Model Fit; (5) Modification/Re-specification. Diamantopoulos and Siguaw (2000) added model conceptualization and path diagram construction before model specification, and model cross-validation after model modification.

4.1 Model Conceptualization and Path Diagram Construction

Covariance structure model in social science, broadly speaking, relies highly on sample data. It is quite impossible for researchers to omit dealing with measurement error since social science research is often faced with bias questionnaire answers. In order to estimate relationship between manifest variables and associated latent variable, factor analysis was done per latent variable. Input matrices used are neither continuous covariance nor correlation matrices, instead, asymptotic covariance matrices due to polychoric data type. By using LISREL 8.8, factor analysis for Demography (A) significant manifest variables are A1 (Education), A5 (Employment status), A7 (Charity per income), A8 (Expectation of future economy condition), A9 (Income), A11 (Gender), A12 (Financing institution), A13 (Charity institution), and A15 (Financial education). The highest factor loading is given by A5, which is 0.72. This group of factor does not include six indicators A2 (Age), A3 (Marital status), A4 (Household size), A6 (Origin), A10 (Religious activity), and A14 (Home ownership) because A2, A4, and A6 are not proven to be significantly affecting A (Demography factor), while A3, A10, and A14 are having standardised loading factor (SLF) less than 0.30. According to Hair, et.al (2006), SLF minimum level for interpretation of structure should range between ±0.30 and ±0.40. Meanwhile, A16 (consecutive taking debt) is included in attitude cluster towards consecutive debt-taking behaviour (B).

Latent variable of Attitude towards Consecutive Debt-taking Behaviour (B) consists of A16 (consecutively taking debt), B18 (take another debt), B19 (benefit of debt), and B20 (cost of debt: worry). Subjective Norm towards Consecutive Debt-taking Behaviour (C) factors are C24 (spouse), C25 (parents), C26 (siblings), and C27 (close friends). Manifest variables of Perceived Behaviour Control towards Consecutive Debt-taking Behaviour (D) are D32 (makes life better), D33 (have something now and pay later), and D34 (covered by some institutions). Variable Intention towards Consecutive Debt-taking Behaviour (E) consists of three indicators, which are E38 (way of life), E39 (survival in society), and E40 (will definitely take debt). Behaviour (EB) variable comprises three observed variables. They are E41 (important to fulfil family needs), E42 (important to feel satisfied), and E43 (important to practice true spirit in Islam). Lastly, Outcome (F) variable is eventually consisting of liquidity ratio (F50), assets per liabilities ratio (F51), debt-service ratio or debt burden (F52) and satisfaction with lifestyle (F53).

4.2 Model Identification

Initially, consecutive debt-taking behaviour model included 81 parameters. However, based on factor analysis six indicators were deleted and left 69 parameter coefficient for both structural and measurement models. Thus, the model is over-identified since estimated parameters are smaller than predicted data (Wijanto, 2008), which gives several alternative predictions for each parameter. It makes the degree of freedom become positive (predicted data – estimated parameters > 0). Degree of freedom is calculated from the following equation.

$$\text{df} = \frac{1}{2}\left[(p+q)(p+q+1)\right] - t \tag{4}$$

The above equation defines p as the number of manifest variable explaining endogenous latent variable. Meanwhile, q is the number of manifest variables explaining exogenous latent variable. Also, t is the number of model coefficient to be estimated. Sample size, apparently, do not influence the degree of freedom in this regard. However, the size should relish the rule of thumb which is as much as five respondents for every observed variable. Therefore, for 53 observed variables, respondents needed are 53 x 5 equal to 265 respondents.

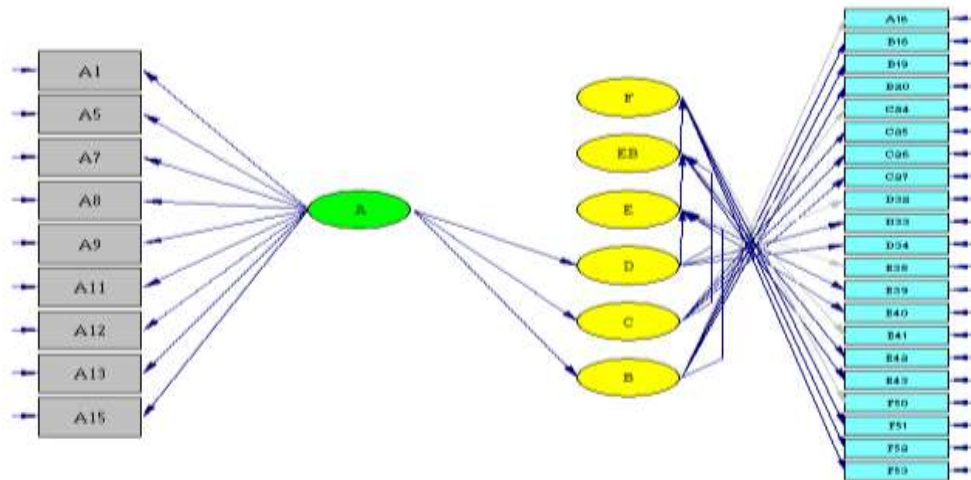Tested parameters are shown in the following path diagram.

Figure 1. Path Diagram of Consecutive Debt-taking Model

4.3 Model Estimation

There are three common estimation method used in minimizing the differences between implied and covariance matrices (Kelloway, 1998). Ordinary Least Square (OLS), Generalized Least Square (GLS), and Maximum Likelihood (ML). LISREL seems equate in using maximum likelihood estimation. ML and GLS have similar approach and underlying assumptions. Estimation method MLE is fit for big sample size (Wijanto, 2008; Kelloway, 1998; Damantopoulos and Siguaw, 2000).

Assumptions fulfilment, for larger sample, however, is not uncommon to be violated, including normality case (Pallant, 2005). In this study, from LISREL output of correlation analysis, some correlation show that underlying bivariate normality may not hold. It implies estimation method cannot be maximum likelihood, which is very sensitive with distribution of data (Mueller, 1996). Thus, estimation used for this model is Weighted Least Square (WLS) which is relatively insensitive to non-normality of data (Mbau, 2008; Jöreskog and Sörbom, 1996; Jöreskog, 1990; Jöreskog, Sörbom and Du Toit, 2001).

4.4 Testing Model Fit

At the beginning of running data through WLS, negative error variance in equation of latent variable B from A appeared. Supposedly, it is impossible to have a variance in negative value (Pollard, 1997). Negative error variance indicates that B has an error variance in a very low value because the theory may be still weak or not strong enough to be included, so it needs to be set into the lowest value (Wijanto, 2008). However, after setting the error variance of B, the model shows insignificant result again.

Initial model show some t-values are insignificant, which means, unobserved variable is not significantly affecting the observed variables, or the stipulated unobserved variable (latent) is not significantly affecting another latent variable. These variables need to be deleted from the model. According to the above output, variable A5 (employment status) has significant value lower than 1.96 (cut off t-value for 5 percent significant level). The final acquired model is shown in the following figure.

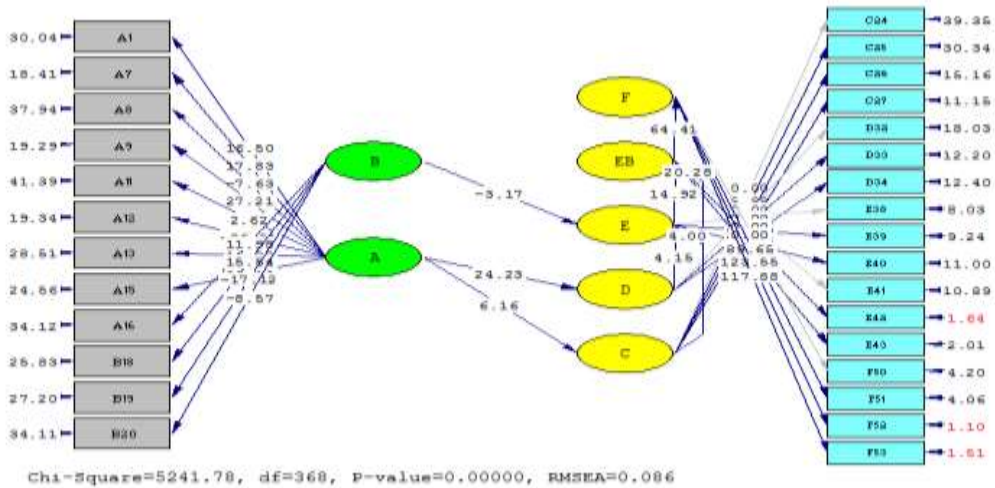Chi-Square=5241.78, df=368, P-value=0.00000, RMSEA=0.086

Figure 2. Final Model of Consecutive Debt-taking Behaviour by WLS Estimation

With Root Mean Square Error of Approximation (RMSEA) value of 0.086, the model may not classified as good-fit (Wijanto, 2008; Hair, et al., 2006). Root Mean Square Error of Approximation is one of the informative index estimating SEM. It estimates approximate average of variance per degree of freedom in population, instead of in sample. Meanwhile, chi-square value is quite high and p-value is less than 0.05. Big sample size may cause this condition (Hair, et.al, 2006). However, this research can proceed with the model because other good-fitness tests show the fitness of this model. Three out of four good-of-fitness tests shows that the model is in good-fit range.

Table 8. Good-of-Fitness Tests of Consecutive Debt-Taking Behaviour Model by ULS Estimation

Good of Fitness Measurements	Cut off value	Model value
Good-of-Fit Index (GFI)	>= 0.90 is good-fit, 0.08 <=GFI< 0.90 is marginal fit	0.96 = good-fit
Root Mean Square Error of Approximation (RMSEA)	<= 0.08 is good fit <0.05 is close fit	0.086 = not in good fit
Normed Fit Index (NFI)	>= 0.90 is good-fit 0.80 <=NFI< 0.90 is marginal fit	0.93 = good-fit
Comparative Fit Index (CFI)	>= 0.90 is good-fit 0.80 <=CFI< 0.90 is marginal fit	0.94 = good-fit

Nonetheless, standardized solution or standardized loadings for this model depicts that there are some indicators which have factor loadings less than 0.30. In other words, some indicators do not pass the minimum value for interpreting the structure. However, validity and reliability tests should be executed. Validity test measures the extent of items reflecting the theoretical latent construct. It provides confidence of the accuracy of measurement taken from sample which represent actual score that exist in the population.

Total of all squared standardised loading factors ($\sum_{i=1}^{n} \lambda_i^2$) per latent variable divided by the number of items per latent variable would result in a variance extracted (VE) value. It is the average squared factor loadings. VE of 0.5 indicates that on average, error remains half and half with variance explained latent structure.

The strongest VE and construct reliability (CR) are given by F latent structure, 92.69 percent and 0.98 respectively. Apparently, financial well-being can be represented by debt service ratio (0.99), lifestyle satisfaction (0.98), assets per liabilities ratio (0.94), and liquidity ratio (0.94). It is reliable throughout different period of time for low-income households in Indonesia. Meanwhile, EB has VE value of 85.79 percent. It indicates that manifest variables explains variance in the construct (Hair, et.al, 2006). Its CR is 0.95, which depicts its internal consistency is highly reliable. Behaviour represented by the importance of feeling satisfied (E42), practicing the true spirit in Islam (E43), and fulfilling family needs (E41).

The VE and CR of latent E are 72.30 percent and 0.88 respectively. Taking debt consecutively as way of life (0.87), taking debt consecutively as a means to survive in society (0.86), and strong intention to take debt consecutively (0.82) are representing the intention of low-income households in Indonesia to take debt consecutively. Nonetheless, for D (perceived behavioural control towards consecutive debt-taking behaviour), its VE is 53.54 percent, and its CR is 0.77 which is good. According to Hair, et.al (2006) CR score of 0.7 or higher suggests good reliability. To have something new immediately while the payment can be made later (0.77) ostensibly gives the highest standardised loading factor, followed by guarantor (0.76) and better life (0.66) represent perceived behavioural control of low-income households in Indonesia to take debt consecutively.

Among latent variables, A (demography), B (attitude), and C (subjective norm) have the lowest validity and reliability estimations. VE and CR of A are only 21.63 percent and 0.30 respectively, while B has 11.93 percent of VE and a very low CR, which is only 0.00. Low CR indicates more error than variance are explained by these latent variables. C has 27.51 percent of VE and its CR is 0.55 which is also not reliable enough.

The highest factor loading in A is given by financing institution (A12) and income (A9), followed by charity per income, financial education, charity institution, and education. Expectation of future economy condition indicator (A8) and gender (A11) have very low SLF. Meanwhile, construct B is represented by the statement of taking debt consecutively (A16), benefit of debt (B19), disadvantage of debt (B20), and statement to take another debt (B18). The weak score of VE and CR estimations occurred due to many construct indicators with factor loadings less than 0.7 than those with higher value.

In terms of subjective norm (C), intra-household bargaining may result in joint financial decision making (Lyons, Neelakantan, and Scherpf, 2008; Yilmazer and Lyons, 2010). However, up to this point in this study, spouse's influence gives the lowest SLF in this construct among other influences (parents', siblings' and close friends'). It indicates that to take debt consecutively, wife or husband possibly do not ask permission from each other.

4.5 Model Modification

Previous subsection shows that construct B is very weak in validity and reliability estimation. If the latent variable is deleted from model and modification suggested by LISREL are added, the goodness of fit test shows better value than previous model. Modification model can be seen in the following figure.

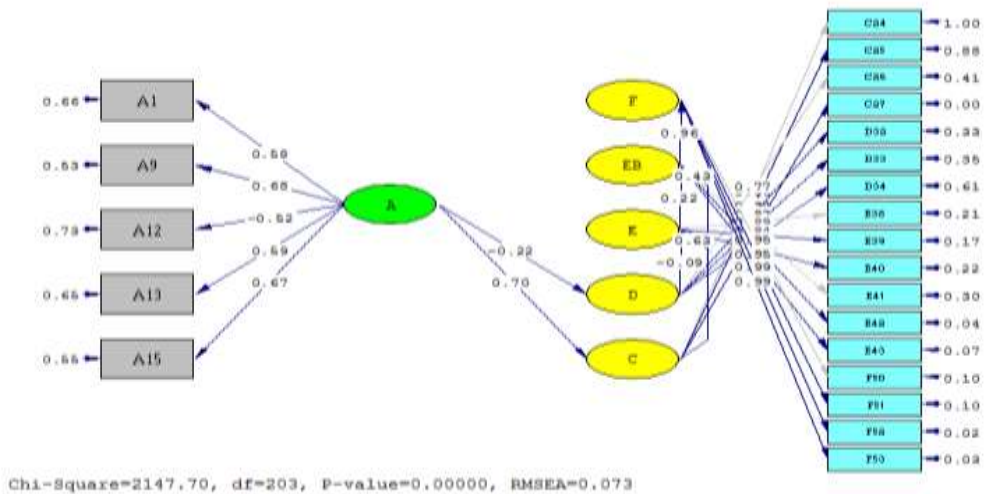Chi-Square=2147.70, df=203, P-value=0.00000, RMSEA=0.073

Figure 3. Modification Model of Consecutive Debt-taking Behaviour by WLS Estimation

Figure 3 shows us that relationship added from perceived behavioural control (D) to siblings' influence (C26). It indicates low-income households in Indonesia, based on their experience, still depend on family, especially siblings. It explains that most informal source of funds come from family. Finally, the goodness of fit test shows better estimation. Only SRMR shows that the model is close to good-fit range.

Table 9. Good-of-Fitness Tests of Consecutive Debt-Taking Behaviour Modification Model by WLS Estimation

Good of Fitness Measurements	Cut off value	Model value
Good-of-Fit Index (GFI)	>= 0.90 is good-fit, 0.80 <=GFI< 0.90 is marginal fit	0.98 = good fit
Root Mean Square Error of Approximation (RMSEA)	<= 0.08 is good fit <0.05 is close fit	0.073 = good fit
Normed Fit Index (NFI)	>= 0.90 is good-fit 0.80 <=NFI< 0.90 is marginal fit	0.96 = good fit
Comparative Fit Index (CFI)	>= 0.90 is good-fit 0.80 <=CFI< 0.90 is marginal fit	0.97 = good fit
Standardised Root Mean Residual (SRMR)	<= 0.08 is good-fit	0.10 = close in range of good-fit

In predicting the impact of each variable, next phase is checking validity and reliability of each construct. The result is as follows.

Table 10. Validity and Reliability of Consecutive Debt-taking Behaviour Modification Model

Indicators	Lambda (A)	Lambda (B)	Lambda (C)	Lambda (D)	Lambda (E)	Lambda (EB)	Lambda (F)
A1	0.58						
A9	0.68						
A12	-0.52						
A13	0.59						
A15	0.67						
C24			0.06				
C25			0.34				
C26				0.77			
C27			1				
D32				0.82			
D33				0.81			
D34				0.62			
E38					0.89		
E39					0.91		
E40					0.89		
E41						0.84	
E42						0.98	
E43						0.97	
F50							0.95
F51							0.95
F52							0.99
F53							0.99
Variance extracted (VE)	37.32%	0.00%	37.31%	57.65%	80.41%	86.90%	94.13%
Construct reliability (CR)	0.56	-	0.57	0.84	0.92	0.95	0.98

In this modification model, attitude towards consecutive debt-taking behaviour (B) is not significantly proven influencing intention (E). The situation encountered may due to selected indicators are not representing the actual condition of low-income households' attitude in Indonesia. As its previous CR is very low, other indicators may more suitable representing B.

To the extent of other construct in modification model, all VE are escalated especially construct A after removing two indicators to represent the construct. The increasing point is 15.69 percentage points. All CR are increasing as well. F still has the highest CR as well as the highest VE.

In conclusion, modification model is better than initial model. It concludes the study to accept the modification model.

Table 11. Structural Equation of Consecutive Debt-taking Behaviour Model

Structural Equation	t-value	R^2	Interpretation
F = 0.96*EB	55.68	0.92	
- Consecutive debt-taking behaviour positively affects financial well-being. - Consecutive debt-taking behaviour can explain 92 percent of total variance of outcomes; another 8 percent is explained by other variables.			
EB = 0.22*E + 0.43*D	10.26 (E →EB) 18.34 (D →EB)	0.20	
- Intention towards consecutive debt-taking behaviour positively affects the behaviour. - Perceived behavioural control towards consecutive debt-taking behaviour positively affects the behaviour. - Intention and perceived behavioural control can explain 20 percent of total variance consecutive debt-taking behaviour; another 80 percent is explained by other variables.			
E = - 0.087*D + 0.63*C	-3.93 (D →E) 2.00 (C →E)	0.42	
- Perceived behavioural control towards consecutive debt-taking behaviour negatively affects the intention. Subjective norm towards consecutive debt-taking behaviour positively affects the intention - Perceived behavioural control and subjective norm can explain 42 percent of total variance of intention towards consecutive debt-taking behaviour; another 58 percent is explained by other variables.			
D = - 0.22*A	-8.63	0.05	
- Demography latent variable negatively affects the perceived behavioural control. - Demography variable can explain 5 percent of total variance of perceived behavioural control; another 95 percent is explained by other variables.			
C = 0.70*A	2.00	0.49	
- Demography latent variable positively affects the subjective norm latent. - Demography can explain 49 percent of total variance of subjective norm; another 51 percent is explained by other variables.			

The above table shows us the significant structural equation model of this study. Demography variable is significantly proven to affect behaviour indirectly through subjective norm and perceived behavioural control. Theory of Planned Behaviour is confirmed, except for attitude variable which is not significantly proven to affect intention towards behaviour. Theory of Production Function (EB to F) is also proven with outcome proxy of financial ratios and satisfaction in lifestyle (F). Among all manifest variables, including financial education, have positive relationship in shaping the consecutive debt-taking behaviour. Only financing institution (A12) has negative relationship with its latent variable.

5. Conclusion

It is proven that behaviour explains financial ratios and satisfaction in lifestyle of low-income households in Indonesia. Attitudes, apparently, does not influence intention towards consecutive debt-taking behaviour. Financial education is proven to be positively affecting the behaviour of taking debt consecutively indirectly through perceived behavioural control and subjective norm. It eventually affects financial ratios and satisfaction in lifestyle.

In view of the above findings, appropriate financial education strategy should be implemented in order to ensure its effectiveness. Awareness and consumer education programs catered towards affecting the behaviour of the low-income households towards a wise decision on using debt consecutively for fulfilling family needs. With this awareness and understanding, it means that the low income households are able to control their desire and satisfaction, thus practicing the true spirit of consumer as proposed in Islam.

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