Analysis of Factors Influencing Credit Card Ownership and Amount of Credit Card Debt

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ABSTRACT

The objectives of the study were to determine the factors influencing credit card ownership and amount of credit card debt. The data was collected from 537 graduate students of the Graduate Programme of Management and Business, Bogor Agricultural University, Bogor Indonesia. Logistic regression was used to analyse factors influencing credit card ownership. Multiple regression was utilized to analyse factors affecting the amount of credit card debt. The results of the study show that marital status and income positively and significantly affected credit card ownership. Respondents who were married, and with higher income were more likely to have credit cards than those who were single, and with low income. The amount of income, household expenses and number of credit cards had positive and significant effects on the amount of credit card debt. Respondents with higher income and household expenses had a larger amount of credit card debt than those with lower income and smaller household expenses. The larger the number of credit cards held, the higher the amount of credit card debt. The results of the study provide important implications for public policy and consumer education. Consumer educators and financial services authorities need to develop public campaigns for building awareness of being smart and wise consumers in using credit cards.

Keywords: Credit Card, Consumers, Debt

INTRODUCTION

Previous studies have measured credit card behaviour using two approaches: attitude and objective measurement. Khare, Khare, and Singh (2012) used seven questions with a five-point Likert scale to measure credit card use. Lin, Wang, Yang, and Sekarini (2013) measured attitudes toward credit card use by asking about respondents'

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intensity and excessive credit card use. Fogel and Schneider (2011) measured attitudes toward credit card usage by three questions using a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Robb and Sharpe (2009) measured attitudes toward credit card use through financial literacy and debt repayment. The dependent variable of this study was measured by looking at the students' decision to pay the debt either in instalments or in full. Limbu, Huhmann & Xu (2012) measured attitudes toward credit card use by asking respondents of their confidence in their credit card, credit card use, and behaviour in controlling the amount of expenditure or credit card debt each month. Sari and Rofaidah (2011) used attitudes and subjective perceptions on credit card use to measure credit card behaviour.

A small number of previous studies have used the objective measure of credit card behaviour by asking about the number of credit cards, frequency of card usage in a month, and payment made in full (non-revolving) or payment in part (revolving credit) (Temba & Tumedi, 2012). Chien & Devaney (2001) defined credit card debt as the total outstanding balance on the credit cards that respondents were currently holding. Sprenger & Stavins (2010) used credit card payment to measure credit card behaviour. Respondents were considered as having revolving balances if they regularly carried a balance on his/her credit card (did not pay off the balance in full). Sayono, Sumarwan, Achsani & Hartoyo (2009a) measured credit card ownership by asking respondents whether or not they had credit cards. Another study by Sayono, Sumarwan, Achsani, Hartoyo (2009b) measured credit card behaviour by three variables: frequency of credit card use, total amount of transactions made using credit cards, and method of payment of the credit card bill.

A number of factors were found to affect consumers in deciding the use of credit cards. Demographics, motivations, attitudes, and personality influenced consumer decisions in credit card ownership (Sayono, et al., Achsani, Hartoyo 2009b). Credit card ownership will affect the amount of debt held. Credit card debt is affected by household size, education, marital status, professional status, attitudes toward credit card, and income (Chien & Devaney, 2001). Research by Marlina (2002) showed that a smaller family size and husband's income increased the probability of credit card usage. A study conducted by Sari & Rofaida (2011) showed that attitude, subjective norm, and behaviour control had high influence on credit card usage. Perceptions of the usefulness of the credit card had an influence on a positive attitude in credit card usage. Subjective norm affected positive credit card usage. Furthermore, the higher the respondents' self-control, the wiser the consumers in using credit cards.

Consumer attitudes and behaviour will determine wise credit card usage. Wise use of credit cards is influenced by educational background, income, and age of consumers (Sari & Rofaida 2011). Younger users of credit card are unwise consumers. Undergraduate students are more likely to have higher credit card debt than graduate students (Robb and Sharpe, 2009). Research by Khare, Khare & Singh (2012) showed that convenience in the use of credit cards were factors affecting credit card usage in India.

Increasing the number of credit cards in the community is driven by bank campaigns. Kontan (2014) interviewed 250 credit card users who live in Jabodetabek (Jakarta, Bogor, Depok, Tanggerang, and Bekasi) in 2011. Kontan's study (2014) showed that 58 per cent of respondents had two to five credit cards, 41 per cent only had one card, and 1 per cent had six to ten credit cards. The study by Sari and Rofaida (2011) showed similar findings. 39 per cent of respondents had two credit cards and 71 per cent of respondents had already used credit cards for more than four years. Purnomo (2013) cited Bank Indonesia data that showed the average number of credit card owned was three.

Studies to determine the factors influencing whether a customer has a credit card or not have been conducted by Sayono, et al., (2009a and 2009b). A study to determine whether a person used a credit card as revolving credit or as a method of payment has also been conducted. No previous study has examined the effect of number of credit cards owned on amount of credit card debt. Credit card marketing in Indonesia is very intensive. Credit card marketing is directed at consumers who do not have a credit card and also those already have a credit card. The data shows that many consumers have more than one credit card. Having an excessive number of credit cards would have a negative impact on a financial consumer if the consumer is not wise in using a credit card. Based on these conditions, the current study will determine the factors affecting credit card ownership and the amount of credit card debt. The results of this research provide important implications for the formulation of public policy for the welfare and protection of consumers. In addition, they are also useful for the health of the banking industry that issues credit cards. The objectives of the study are to determine the factors influencing credit card ownership and the amount of credit card debt.

The larger the number of credit cards owned, the higher the amount of credit line, and therefore consumers with a higher numbers of credit cards will have more opportunity to have larger credit card debt. Credit cards will provide financial resources for consumers to improve their economic welfare because consumers will be able to finance their current consumption

by using their credit cards. However, the excessive use of credit cards as revolving credit will make consumers' future financial situation worse because their future income will decrease as they have to repay their debt. The current study will provide information on the factors influencing the number of credit cards owned and the amount of consumers' credit card debt. This study is very important because it will have some implications for public policy and consumer education. Previous studies have never used saving and household expenses as independent variables in their model of factors influencing credit card behaviour. The current study utilized saving and household expenses as two of the independent variables in the model of factors influencing the number of credit cards owned and the amount of credit card debt. This study will provide information on how saving and household expenses are related to credit card behaviour.

LITERATURE REVIEW

Various independent variables have been tested to determine factors influencing credit card behaviour. Variables used have been credit card attributes such as ease, usage patterns, the status of the use (Khare, Khare & Singh, 2012); and demographic factors such as age, gender, education, occupation, race (Khare, Khare & Singh, 2012; Sprenger & Stavins, 2010; Fogel & Schneider, 2011; Limbu, Huhmann & Xu, 2012; Ludlum, Tilker, Ritter, Cowart, Xu, Smith, 2012). Other variables have included values,

attitudes, personality and knowledge (Khare, Khare & Singh, 2012; Lin, Wang, Yang & Sekarini, 2013).

In relation to educational background, credit card users are more likely to have master's degrees (Sari & Rofaida 2011). According Sumarwan (2011), education is a critical factor for a good job position. More highly educated people are more likely to have better jobs. The Central Bank of Indonesia's policy restricts credit card ownership to credit card applicants who have a minimum monthly income of USD250. Higher income applicants have to have credit cards. Income can affect the use of consumer credit cards. High income households have more financial resources to spend (Fogel & Schneider, 2011).

Age and gender influences credit card use (Khare, Khare & Singh, 2012; Sprenger & Stavins, 2010; Mu 2010). Older adults are committed in their use of credit cards and are more reliable in the use of credit cards compared to students (Limbu, Huhmann & Xu, 2012). Undergraduate students have higher credit card debt compared to graduate students (Robb & Sharpe, 2009). In terms of gender, women use credit cards more often than men (Sprenger & Stavins, 2010). Male students have higher commitment in using credit cards than female students (Limbu, Huhmann, & Xu, 2012). However, a study by Ludlum, Tilker, Ritter, Cowart, Xu & Smith (2012) shows no differences between women and men in

the use of credit cards. People who have higher economic resources pay credit card bills better (Robb & Sharpe, 2009). Women are more efficient in managing monthly balances than men (Limbu, Huhmann & Xu, 2012). Respondents with a higher level of education have greater knowledge of and are more responsible in the use of credit cards than less educated respondents (Robb & Sharpe, 2009). Married respondents have higher knowledge of credit cards than unmarried respondents (Ludlum, Tilker, Ritter, Cowart, Xu & Smith, 2012).

The dependent variable of the current study is credit card ownership and amount of credit card debt. There have been previous studies related to credit card ownership and credit card debts. One study examined the behaviour of undergraduate students regarding credit card usage (Bittiker, 2010; Robb & Sharpe, 2009; Limbu, Huhmann & Xu, 2012; Ludlum, Tilker, Ritter, Cowart, Xu & Smith, 2012). Studies have also focused on impulsive buying behaviour, debt and credit card payment (Sprenger & Stavins, 2010; Lin, Wang, Yang & Sekarini, 2013; Mu, 2010) while others investigated the number of credit cards owned (Ludlum, Tilker, Ritter, Cowart, Xu & Smith, 2012; Sari & Rofaidah, 2011; Wang, 2011). Sayono, et al,. (2009b) examined the frequency of credit card use, the total value of the transaction usage, credit card payment behaviour (full Payment, <10% payment, and late payment penalties). Intention to use credit card as an attitude variable was used to measure the behaviour of credit card usage by Sari and Rofaidah, 2011. Other attitude variables used to measure credit card behaviour were intensity of bill payment, overall intensity of bill payments, and the intensity of credit card use to avoid paying cash. In addition to attitude measurement of credit card behaviour, previous studies also measured credit card behaviour using ratio scale with currency as the unit of measurement. The variables measured in the ratio scale were debt, credit card payment, and total value of credit card transaction. Other credit card behaviour variables were also measured using the ratio scale but with the unit of measurement being intensities and frequency. These variables included frequency of credit card use, number of transactions, intensity of bill payment, and number of credit cards. The current study will use the objective measure of credit card behaviour, credit card ownership and amount of credit card debt. The current study reflects differences and similarities with previous studies. The differences include saving and household expenses as two of the independent variables tested in the model of factors influencing credit card ownership and amount of credit card debt.

The current study will investigate income as a factor influencing credit card ownership and amount of credit card debt. Previous studies have

examined income as a predictor of credit card behaviour. Sayono, et al., (2009a) examined age, gender, marital status, household size, education, position in employment, income, motivation, attitude, and personality as the independent variables. Wang (2011) investigated the effects of income on credit card ownership and amount of credit card debt among undergraduate students in the United States. His study found that income has significant and positive influence on the amount of credit card debt, but it is not significant in explaining credit card ownership. The samples for the current study comprised 537 graduate students of the Graduate Programme of Management and Business, Bogor Agricultural University, Bogor Indonesia. The results of the study will provide insight into how income influences credit card behaviour among graduate students in a developing country.

Higher income respondents may not use credit card wisely because they think they have more financial resources to spend (Fogel & Schneider, 2011). Mu (2010) found people who work full-time have a lower price sensitivity than people who do not work, so they are more compulsive in using credit cards People who have income, education, and lower age tend to have a smaller number of credit cards (Themba & Tumedi, 2012).However, younger students are more likely to use credit cards than older students (Ludlum, Tilker, Ritter, Cowart, Xu & Smith, 2012).

Even though previous studies have tested the influence of income on some credit card behaviours, none of the studies specifically investigated the effect of income on the amount of credit card debt. The current study will provide insight into how the amount of debt is affected by income. Amount of credit card debt is one of the indicators for the financial well-being of consumers. Consumers with a higher amount of debt may have more burden in the future; their future well-being will be reduced because they have obligations to pay their debts.

The current study will investigate the effect of household size on credit card behaviour, especially on credit card ownership and amount of credit card debt. Household size is an important variable of consumers' demographic characteristics. Household size indicates the number of people being supported by a family. A larger household represents a larger amount of family needs and resources that have to be met. Consumers who have credit cards may use credit cards as revolving credit to finance their needs when they do not have available cash to spend. Sayono, et al., (2009a) studied the effect of household size on credit card ownership; however, they did not examine the influence of household size on amount of credit card debt.

The current study will test marital status as a predictor of credit card ownership and amount

of credit card debt. Marital status is another demographic characteristic of consumers that may influence their credit card behaviour. Consumers who are married may have more financial resources than single consumers. Consumers with higher financial resources are more likely to be granted more credit cards, and thus they have opportunities to use credit cards either as a method of payment or as revolving credit.

The current study tested the effect of saving on credit card ownership and amount of credit card debt. Saving can be defined as consumers' financial resources which are not used for financing consumer consumption. Many credit card issuers use consumers' saving as an indicator of credit eligibility. Consumers with a higher amount of saving are more likely to be granted credit card. No previous study has investigated the relationship between saving and credit card behaviour. The current study will provide new insight into the influence of saving on credit card behaviour.

The current study also investigated the influence of household expenses on credit card behaviour. Household expenses represent the amount of income spent on various product purchases. Consumers who have credit cards may use their credit cards to pay for their purchases. Consumers may also use their credit cards as a method of payment when they pay the full

amount on their credit card bill on the due date, but they might use their credit cards as revolving credit when they pay only some of the amount on their credit card bill on the due date. No previous study has examined the relationship between household expenses and credit card behaviour. The current study will provide some findings on the impact of household expenses on credit card behaviour.

The current study also examined the relationship between the number of credit cards and the amount of credit card debt. One credit card will provide a certain amount of credit line for a consumer that can be used as revolving credit, thus a consumer would have outstanding credit. Consumers who have a larger number of credit cards would have a larger amount of credit line, thus they may have a higher amount of credit card outstanding when they use their credit cards as revolving credit. Wang (2011) found that the number of credit cards and the amount of credit card debt are related to each other in the case of undergraduate students. This indicates that a larger number of credit cards is associated with a higher amount of credit card debt. The current study tested the effect of the number of credit cards on the amount of credit card debt by using multivariate analysis. The weakness of Wang's study (2011) was that he tested only the bivariate relationship between the number of credit cards and the amount of credit card debt without considering

the effects of other variables on credit card debt. The current study tested the influence of the number of credit cards on the amount of credit card debt by holding other independent variables constant.

METHODS

Research Design. The survey method was used as the research design for this study. The population of the study comprised graduate students of the Graduate Program of Management and Business, Bogor Agricultural University, Bogor, Indonesia. All 537 students were interviewed. The data was collected between June 2013 through October 2014. Self-administered questionnaires were utilized as a method of data collection.

Variables Description.

Several variables were used in this study: gender, marital status, household size, income, household expenses, saving, number of credit cards, and credit card debt. Gender was categorized as male or female. Marital status was classified into married or single. Household size was the number of persons that were related by marriage and those related by blood were considered as family members. Income was the amount of money received from various sources every month. Household expenses were the amount of money spent on food and non-food items monthly. Number of credit cards was the number of credit cards owned by respondents. For the purpose of logistic regression analysis, credit card ownership variable was constructed from the number of credit cards variable. Respondents who had at least one credit card were coded one as having credit card, and those who did not have any credit card were coded 0 as having no credit card. Credit card debts were the total amount of debt owed on credit cards.

Data Analysis. The study tested two models. The first model examined factors influencing credit card ownership (the probability of owning credit cards). The second model investigated factors influencing the amount of credit card debt. The dependent variable for the first model has only two groups (have no credit card and have credit card), and logistic regression analysis is appropriate to test the first model. Hair, Black, Babin, Anderson & Tatham (2006) suggested that logistic regression is preferred for two reasons. Logistic regression does not face strict assumptions of multivariate normality and equal variance-covariance across groups. Furthermore, they suggested that logistic regression is more robust when the assumptions are not met, and is appropriate to apply in many situations.

To assess factors influencing the probability of credit cards owned, the logistic regression model was presented as follows.

Model 1

$Y1 = f(X1, \ldots \ldots Xn)$

$Y1 = 1$, if the respondent owned credit card

$Y1 = 0$, if the respondent did not own credit card

$X1$ = household size

$X2$ = marital status

$X3$ = saving

$X4$ = household expenses

$X5$ = income

$X6$ = credit card debt

To determine the factors influencing the amount of credit card debt, the multiple regression model was utilized. Multiple regression analysis is a general statistical model applied to test the relationship between a single metric dependent variable and several metric independent variables. The dependent variable for the second model was amount of credit card debt measured in metric units (US $), while five of the independent variables were measured using the ratio scale, and the sixth independent variable (marital status) was measured using the nominal scale; however, it was transformed into dummy variable having two categories (1=married, 0=single). Therefore, all independent variables met the assumptions of metric scale for multiple regression. The multiple regression for the second model is presented as follows:

RESULTS AND DISCUSSION

Demographic and Socioeconomic Characteristics

Using credit cards has become increasingly popular as a method of payment. The characteristics of an individual will determine the decision to consume a particular product or service while demographic characteristics influence a consumer's decision to possess a credit card (Sayono, et al., 2009b; Sumarwan 2011).

This study interviewed 537 respondents, of whom 337 were male and 200 were female. Table 1 presents the demographic and socioeconomic characteristics of the respondents. About 63 per cent of the respondents were male and slightly more than half (56%) of the respondents were single. Many respondents were in the early stage of their careers and they were mostly younger than 30 years of age. Some of them were fresh graduates from undergraduate programmes from various universities. The average household size was four peoples (sd=1.6). More than half of the respondents (65.20%) had a small family (<4), less than a third of respondents had a medium-sized family (5-7 persons), and only a small proportion of respondents (1.5%) had a large family (> 8 people). The average household saving was USD370 dollars. Average household expenses amounted to USD460, and the average income was USD1055.

Credit Card Variables

Table 2 presents credit card variables. Among 537 respondents, about 53% of the respondents did not have any credit card. The number of credit cards owned ranged from one to eight credit cards. About 19% of the respondents owned only one credit card, followed by two credit cards (15%) and three credit cards (6%). The average number of credit card owned was one, and the average amount of credit card debt was USD75 dollars.

Model 1. Factors Influencing Credit Cards Ownership

Table 3 presents the results of logistic regression analyses of factors influencing the probability of credit card ownership. The dependent variable (Y1) for Model 1 was the ownership of credit card. Y1 was coded 1 if the respondents had at least one credit card, and was coded 0 if the respondents did not have any credit card. The independent variables for Model 1 were household size, marital status, saving, expenses, and income. Model 1 had R^2 of 0.21, which means

Table 1: Demographic and Socioeconomic Characteristics

Demographic		n	%
Gender	Male	337	62.80
	Female	200	37.20
Marital Status	Married	237	44.1
	Single	300	55.9

	Min	Max	Mean	Standard Deviation
Household Size	1	10	4.0	1.6
Socioeconomic (in USD) Saving	0	769.23	369.78	3,724.77
Expenditure (in USD)	11.54	6,538.46	459.12	637.50
Income (in USD)	192.31	10,000.00	1,054.38	1,197.42

Table 2: Number of Credit Cards and Debt

Number of Credit Cards	n	%
0 (no credit card)	282	52.50
1	103	19.20
2	83	15.50
3	32	6.00
4	21	3.90
5	8	1.50
6	4	0.70
7	2	0.40
8	2	0.40

	Min	Max	Mean	Standard Deviation
Number of Credit Cards	0	8	1.0	1.4
Credit Card Debt (in USD)	0.00	1,230.77	75.31	158.99

that about 21% of variation in credit card ownership variable can explain the independent variables.

Table 3 provides beta (B) coefficient and Exp(B) which was exponentiated coefficient. The beta coefficient is the original coefficient. Its positive and negative signs indicate the direction of relationship between the independent variables and the dependent variable. The positive sign represents an increase in the independent variable, associated with an increase in the predicted probability of dependent variable (the probability of having credit card). The negative sign reflects an increase in the dependent variable, related to a decrease in the predicted probability of dependent variable (probability of having credit card). The original coefficients are presented as logit value, where a value of 0.00 equals to an odd value of 1.0 and a probability of 0.50. The negative values of the original coefficient means an odd less than 1.00 and probabilities less than 0.50.

The exponentiated coefficients are the logarithm of the original coefficients; therefore, they are interpreted differently from the original coefficient. The exponentiated coefficient will not have negative value. Because the logarithm of 0 (no effect) is 1.0, therefore an exponentiated coefficient of 1.0 represents a relationship with no direction. Exponentiated coefficients larger than 1.0 means a positive association and a value less than 1.0 reflects a negative correlation.

Marital status had a positive beta coefficient of 0.821 with significant level of 5%. This means that marital status had a positive and significant effect on credit card ownership. The Beta coefficient was the original coefficient indicating the relationship between marital status and the probability of credit card ownership. The positive beta coefficient indicated that marital status variable increased the probability of having credit cards. Married respondents had a higher probability of having credit cards than those who were not married. Married respondents were also more likely to have credit cards than those who were not married. Married respondents were usually older than the rest of the respondents and they were more likely to have longer job experience and thus they had higher income. This finding was consistent with previous research which states that marital status affects credit card ownership (Ludlum, Tilker, Ritter, Cowart, Xu & Smith, 2012). Credit culture is very closely related to household needs such as the purchase of household appliances, homes, and vehicles. This will encourage people who are married to use credit cards.

Income had a positive coefficient of 0.0006 with significant level of 1%, which showed that income had a positive and significant effect on credit card ownership. The positive beta coefficient of income indicated that an increase in the income level of the respondents increased the probability

Table 3: Logistic Regression on Factors Influencing Credit Card Ownership

Independent Variables	B	Exp(B)	Significance
Household Size	-0.069734683	0.932641233	0.256
Marital Status	0.507805609	1.661640901	0.014
Saving	0.00033243	1.000332486	0.631
Expenses	0.00045817	1.000458275	0.125
Income	0.000636146	1.000636348	0.000
Constant	-1.467797836	0.230432377	0.000
R Square = 0.21			
Significant level = 0.000			

Note: Logistic Regression on Factors Influencing Credit Card Ownership (Dependent Variable: Y = Credit Card Ownership 0 = No Credit Card; 1= Have Credit Card)

of respondents having credit cards. Respondents with higher incomes had a higher probability of owning credit cards than those with lower incomes. Income represented the ability to repay the debt, and also represented the purchasing power of the respondents. All credit card applicants are required to provide income statements to credit card issuers. Credit card issuers use income as an indicator of applicants' ability to repay their debt payment; therefore, applicants with higher incomes are more likely to be granted credit cards than those with lower incomes. This is in line with the research conducted by Fogel and Schneider (2011) who found that higher income respondents are more likely to have more credit cards and a higher amount of credit card debt.

The beta coefficient of household size was -0.069734683. The beta coefficient of savings was 0.00033243, and the coefficient of expenses was 0.00045817. These three beta coefficient were not significant at 5% level. This indicated that household size, saving,

and expenses did not have significant effects on credit card ownership. The changes in the value of household size, saving, and expenses did not change the probability of having credit cards.

Consumers' decision to have credit cards was not determined by their household size. Their decision was mainly influenced by their ability to repay their debt. Regardless of consumers' household size, as long as their income meet the requirement of credit card issuers, consumers are usually granted credit cards by the banks. It was surprising that saving was not significant in affecting credit card ownership. Credit card issuers usually use savings as a consideration in granting credit cards to applicants. The insignificant effect of savings may be due to small variation in the amount of savings the respondents had. The small variation in the independent variable will not have an impact on the variation in the dependent variable. Thus any change in savings will not change the probability of having credit cards.

Expenses also appeared to have insignificant effect on the probability of having credit cards. Expenses reflected the amount of income spent on various products purchased by respondents' family. In brief, expenses were calculated by subtracting income from savings and therefore there were relationships between savings, expenses and income. Among the three variables, only one variable may represent the economic or financial resources of the respondents. The model provided proof that income was the significant variable in the model and it became the best indicator of family financial resources.

Model 2. Factors Influencing the Amount of Credit Card Debt

Table 4 shows the results of multiple regression models of factors influencing the amount of credit card debt. The R square of the model was 0.443, indicating that about 44% of the variation of the amount of credit card debt was explained by the independent variables. Three independent variables: expenses, income, and number of credit cards had positive and significant effects on the amount of credit card debt.

The coefficient of expenses was 0.022 with significant level of 10% which indicated that expenses had a positive and significant effect on the amount of credit card debt. An increase in household expenses by USD1 will increase the amount of credit card debt by USD0.022 with the assumption of other variable values held constant. The positive significant coefficient of

expenses means that respondents who had higher household expenses had a larger amount of credit card debt than those who had less household expenses. The higher the household expenses, the larger the amount of credit card debt. When the respondents purchased goods and services for family needs, they could use credit cards for payment. Respondents who paid the full amount on their credit card bills were those who used credit card as a method of payment. Respondents who paid only some of the amount on their bill by the due date were those who used credit cards as revolving credit. The dependent variable of this study was the amount of credit card debt which implied that respondents financed their household expenses by using credit card as revolving credit.

The second factor which significantly affected the amount of credit card debts was income. Income had a positive coefficient of 0.047 with significant level of 1%. This meant that when the income of respondents increased by USD1, the amount of credit cards debt would increase by USD0.047. The amount of credit card debts was associated with income. Higher income respondents were related to respondents with larger amount of debts. Credit card issuers usually use income as a proxy for consumers' ability to pay their credit card bills. Credit card issuers will give a larger amount of credit line for consumers with higher income. Respondents with higher

income felt that they had higher ability to repay their debt; therefore, they felt comfortable to have a larger amount of credit card debt. It was not surprising that higher income respondents were more likely to have a larger amount of credit card debt. The results of the study were consistent with previous studies that found income influences debt (Chien & Devaney 2001; Sari & Rofaida 2011; Fogel & Schneider, 2011).

The number of credit cards had a positive coefficient of 43 with significant level of 1%. This result suggested that the number of credit cards had a positive effect on the amount of credit card debts. Respondents who had a larger number of credit cards were more likely to have higher amount of credit card debt. An increase of one credit card would increase the amount of credit card debt by USD43. Each credit card would provide a certain amount of credit line; therefore, a larger number of credit cards would be associated with a higher amount of credit line. Respondents who had a higher amount of credit line would have the opportunity to use their credit line as revolving credit. Thus they would have higher probability of having higher credit card debt. This suggests that ownership of credit cards will make consumers more likely to have debt. Credit cards will make it easy for consumers to buy and to spend even if they do not have enough cash. Credit cards will facilitate consumers to buy now and pay later. As such, the larger the number of credit cards, the higher the amount of debt held.

CONCLUSION AND IMPLICATIONS

The results of the study show that income has a positive and significant effect on both credit card ownership and the amount of credit card debt. Income appears to be the strong predictor of credit card ownership and the amount of credit card debt. Higher income individuals are more likely to

Table 4: Factors Influencing the Amount of Credit Card Debt

Independent Variables	Unstandardized Coefficient	Standardized Coefficient Beta	Significance
(Constant)	-15.899		0.455
Household Size	-0.597	-0.006	0.860
Marital status	-6.261	-0.020	0.579
Savings	-0.001	-0.028	0.391
Expenses	0.022	0.087	0.060
Income	0.047	0.356	0.000
Number of Credit Cards	43.170	0.386	0.000
R Square = 0.443			
Significance = 0.000			

have credit cards, they are also more likely to have a higher amount of credit card debt. Marital status positively and significantly influences credit card ownership. However it does not have significant effect on the amount of credit card debt. The number of credit cards is a strong predictor of amount of credit card debt. Possession of a larger number of credit cards is related to a higher amount of credit card debt. Household size is not significant in influencing credit card ownership and amount of credit card debt. Similarly, savings do not have significant effect on credit card ownership and amount of credit card debt.

The results of the study provide important implications for those who are concerned with consumer education. Consumers with higher income may have more credit cards but they will tend to use credit cards as revolving credit rather as a method of payment. If consumers are not regularly made aware of this, they will not realize the consequences of their credit behaviour. Their convenience of shopping using credit cards will increase their credit card debt. Consumers who are not wise in using credit cards will face financial problems, and this will create problems for the financial industry because non-performing loans will also increase. Consumer educators and authorities of financial services need to conduct public campaigns to make consumers wise in using credit cards. ■

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