An Integrative Model of Factors Influencing Debt Burden: A Mediating Role of Money Management in Thai Society

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Abstract

The objective of the present study is to identify factors influencing debt burden of Thais. By integrating theories from various disciplines, the present study contends that debt burden is determined by economic factors (i.e. income and number of credit card), demographic factors (i.e. age, education, and number of children), and socio-psychological factors (i.e. material values). It is proposed that the effects of these factors on debt burden may not be the direct ones. They may be mediated by money management practices. These factors may facilitate people in managing money, resulting in lower debt burden. Results from the questionnaire survey on respondents of working ages in Bangkok indicated that number of credit card and age directly affected debt burden. People of working age who hold more number of credit cards tended to use more credit, hence, had more debt burden. In addition, disposable income, education, and personal's material values were found to indirectly influenced debt burden - they were mediated by money management

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practices. People, who had high income, high education, and low materialism, manage their money better, resulting in lower debt burden. Results from the present study provide policy implementation in reducing Thais' debt burden. Limiting number of credit cards held by individuals may be an effective policy to reduce debt. Increasing income or education may be necessary but not sufficient to decrease debt burden. Training or financial counseling on how to manage cash, credit, saving and investment should be provided in order to reduce debt burden.

Keywords: Money management / Materialism / Debt burden

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีผลกระทบต่อการเกิดภาระหนี้สินส่วนบุคคลของคนไทย จากการรวมทฤษฎีจากหลากหลายสาขาวิชา งานศึกษานี้พบว่า ตัวแปรทางเศรษฐศาสตร์ (เช่น รายได้หลังหักภาษี และจำนวนบัตรเครดิตที่ถือ) ตัวแปรลักษณะประชากร (เช่น อายุ ระดับการศึกษา และจำนวนบุตร) และตัวแปรสังคมและจิตวิทยา (เช่น ค่านิยมทางวัตถุ) ล้วนส่งผลกระทบต่อภาระหนี้สินส่วนบุคคลของคนไทย ยิ่งไปกว่านั้น งานศึกษานี้ยังพบว่าการจัดการทางการเงินเป็นปัจจัยสำคัญ และเป็นปัจจัยที่เชื่อมระหว่างตัวแปรต่างๆ ข้างต้นต่อภาระหนี้สินส่วนบุคคล ผลการสำรวจแบบสอบถาม จากกลุ่มตัวอย่างซึ่งเป็นบุคคลในวัยทำงานในพื้นที่กรุงเทพมหานคร ชี้ให้เห็นว่า อายุ และจำนวนบัตรเครดิตส่งผลกระทบโดยตรงต่อภาระหนี้สินส่วนบุคคล บุคคลที่อยู่ในวัยทำงานและถือบัตรเครดิตหลายใบมีแนวโน้มที่จะใช้เครดิตมากกว่าและส่งผลให้มีภาระหนี้มากกว่า ในขณะที่รายได้หลังหักภาษี ระดับการศึกษา และค่านิยมทางวัตถุ มีผลกระทบทางอ้อมต่อภาระหนี้สินโดยมีตัวแปรการจัดการทางการเงินเป็นสื่อกลาง คนที่มีรายได้สูง ระดับการศึกษาสูง

และมีค่านิยมทางวัตถุต่ำมีแนวโน้มว่าจะสามารถจัดการทางการเงินได้ดีกว่า ซึ่งนำไปสู่ภาระหนี้ที่ต่ำกว่า ผลจากการศึกษานี้จะเป็นประโยชน์ในการกำหนดนโยบายเพื่อลดภาระหนี้ของบุคคล เช่น การจำกัดจำนวนบัตรเครดิตที่บุคคลสามารถถือครองอาจช่วยลดภาระหนี้ได้ การเพิ่มรายได้ของประชากรและให้การศึกษาเป็นสิ่งที่จำเป็นแต่อาจจะไม่เพียงพอในการลดภาระหนี้ การจัดให้มีที่ปรึกษาทางการเงินหรือการอบรมการจัดการเงินสด เครดิต การออม และการลงทุนถือเป็นสิ่งจำเป็นในการช่วยลดภาระหนี้ของบุคคล เป็นต้น

คำสำคัญ: การจัดการทางการเงิน / คุณค่าวัตถุนิยม / ภาระหนี้สินส่วนบุคคล

Introduction

Debt has become a topic of concern for several countries for over a decade. High debt level deteriorates future consumption, increases probability of non-performing loans (NPLs), raise the risk of financial institutions' stability, resulting in a distraction of economic growth and stability (Charpe & Flaschel, 2013; Lombardi et al., 2017). At micro level, high debt burden can increase default incidences (Lusardi & Mitchell, 2009), feeling of failure (Robb & Pinto, 2010), family conflict (Kerkmann et al., 2000), financial stress and anxiety (Xiao et al., 2006), and poor health (Norvilitis et al., 2003).

Although the negative impacts of debt burden are well documented, less of previous studies have provided an integrative framework of debt burden and provide policy implementation to reduce debt burden at micro level. Therefore, the objective of the present study is to develop an integrative framework that examines factors influencing the level of debt burden. This study contends that demographic factors (i.e. age, education level, and number of children),

economic factors (i.e. income and number of credit card held), and socio-psychological factors (i.e. a person's material values) determined debt burden. In addition, the present study contributes to the existing literature regarding debt determinants by incorporating personal money management as a mediator in the relationships between the mentioned factors and debt burden. Money management is a good predictor of lower debt accumulation. It acts as a safeguard of a person's excessive consumption (Ksendzova et al., 2017). People who can better manage their money save more and experience lower debt (Lea et al., 1995; Garðarsdóttir & Dittmar, 2012), and lower financial stress (Xiao et al., 2006).

Literature Review

The needs of individual to borrow are contingent upon four major factors (Kim & DeVaney, 2001). Firstly, individuals borrow to fulfill their consumption needs. According to life-cycle theory (Ando & Modigliani, 1963), consumption needs of individuals varied along ones' life-cycle. The shifting needs in different stages of individuals' life occur due to changes in age, income, education, and various situations in life including getting married, having children, being retirement (Berthoud & Kempson, 1992). These situations influence people to either save money or borrow money differently (Xiao & Noring, 1994). Secondly, individuals borrow differently because of differences in consumers' resources (Kim & DeVaney, 2001). According to human capital theory (Schultz, 1961; Becker, 1964), consumers' resources refer to income and education. Differences in income and education are associated with different income growth and different needs in borrowing. Thirdly, the decision to borrow is

contingent upon borrowing constraints. The relaxation of borrowing constraints through credit card can increase borrowing (Debelle, 2004; Dynan & Kohn, 2007). Finally, individual differences in sociological or psychological factors (i.e. behavior, attitude, and values) can significantly affect level of borrowing. Previous literatures (e.g. Richins & Rudmin, 1994; Watson, 2003) have consistently confirmed that material values of a person can significantly influence the level of debt burden.

Based on previous literature, the present study contends that the level of debt burden is contingent upon six variables which are age, education, number of children, income, number of credit card held, and personal material values. The influences of each of these variables are elaborated in the next section.

Hypotheses

Age and Debt Burden

According to the Life-Cycle Hypothesis theory (Ando & Modigliani, 1963), at early stage of working, individuals are still young and have larger expenses than earnings. Thus, they decide to borrow money at current period in order to smooth their consumption and maximize their utility for a life-time (Debelle, 2004). In the middle working phase, individuals may experience a positive income growth because they accumulate skills, knowledge and experiences. Expectation of future income growth enhances individual at working age to borrow more and save less (Fan et al., 1993; Hanna et al., 1995). However, during retirement phase, people avoid risk (Ando & Modigliani, 1963). They tend to borrow less when they retire. Since the present study examines the

effect of age at people's working stage, it is expected that age positively influences the debt burden. Thus, it is hypothesized that

H1: Age positively influences debt burden.

Education and Debt Burden

According to human capital theory (Becker, 1975) and household production theory (Becker, 1965), education is an important human resource. It conveys useful knowledge and skills resulting in higher productivity of individuals, hence increasing their lifetime earnings (Becker, 1964). Education increases individuals' knowledge and skills in managing their financial responsibility. Thus, higher educated people should be able to manage their credit and debt more efficiently, resulting in lower debt burden. An empirical study of Steidle (1994) confirmed that education was negatively related to being a credit card revolver. Thus, it is hypothesized that

H2: Education level negatively influences debt burden.

Number of Children and Debt Burden

Individuals who are married or have children tend to have higher debt burden due to higher expenditures and higher needs (Bridges et al., 2006; Duca & Rosenthal, 1994). The bigger the household size, the higher the needs, hence, the higher the loan amount (Fabbri & Padula, 2004). Godwin (1998) had empirically tested and affirmed that household size was positively associated with household debt. Therefore, it is hypothesized that

H3: Number of children positively influences debt burden.

Disposable Income and Debt Burden

Previous studies have affirmed that income is a significant predictor of debt. However, results from previous studies are still inconclusive. Most of the studies (e.g. Del-Rio & Young, 2005; Lea et al., 1993; Lin & Yang, 2005; Meniago et al., 2013; Turinetti & Zhuang, 2011) posited the negative relationship between income and debt. Since those individuals with higher income have high ability to fulfill their needs, thus, they reveal lower need for loans (Chen & Chivakul, 2008; Lin & Yang, 2005; Robb & Woodyard, 2011). In contrast, the other stream of literature (e.g. Kim & DeVaney, 2001; Hofmann, 2004; Mokhtar & Ismail, 2013) has reported positive relationships between income and debt. Higher income individuals have more ability to pay-off debt, thus, facilitate their access to loan. With more ability to borrow, the debt level also rises. The inconclusive effects of income on debt might arise from the utilization of different measures of debt across different contexts (Chien & Devaney, 2001). High income may result in high level of debt outstanding, but not debt burden. Since the present study measures the effect of income on debt burden, it is expected that higher income reduces debt burden. Thus, it is hypothesized that

H4: Income negatively influences debt burden.

Number of Credit Card and Debt Burden

Credit cards decrease constraint in borrowing (Debelle, 2004; Dynan & Kohn, 2007). Credit cards provide opportunity for individuals to access to credit. The more numbers of credit card held allows individuals to increase credit from various sources, resulting in an increase in debt burden. Previous studies (e.g. Kim & DeVaney; 2001; Thaicharoen et al., 2004) have consistently

confirmed that the number of credit card is positively related to the credit card balance outstanding. Therefore, it is hypothesized that

H5: Number of credit card held positively influences debt burden.

Materialism and Debt Burden

Materialism defined as "the importance ascribed to the ownership and acquisition of material goods in achieving major life goals" (Richins, 2004, p. 210). Materialists believe that the acquisition of goods is an important goal of one's life. It can signal success and bring happiness (Richin & Dawson, 1992). Thus, they devote a lot of time and efforts in planning for purchases and dreaming of purchase outcomes (Richins, 2011). High materialistic people are likely to spend more in order to satisfy their strong acquisitive desires and accrue debts. Numerous studies (e.g. Donnelly et al., 2013; Garðarsdóttir & Dittmar, 2012; Nepomuceno & Laroche, 2015; Richins & Rudmin, 1994; Richins & Dawson, 1992) consistently confirmed a positive association between materialism and debt. Therefore, it is hypothesized that

H6: Materialism positively influences debt burden.

A Mediating Role of Money Management

Money management is recognized as an important shield against excessive consumption and debt (Ksendzova et al., 2017). It includes skills in managing spending, saving, budgeting, and investing (Godwin & Koonce, 1992). Life-cycle hypothesis theory (Ando & Modigliani, 1963) posited that individuals' financial responsibilities varied along ones' life-cycle. Differences needs in each stage of life make individuals need different money management practices (Xiao & Noring, 1994). In the working phase of life-cycle, individuals

grow up, accumulate skills, knowledge and experience a positive income growth. Higher age, education, and income assisted individual in better managing their lives and financial responsibilities, resulting in better money management skills and practices (Hilgert et al., 2003) Therefore, it is hypothesized that

H7: Age positively influences money management.

H8: Education positively influences money management.

H9: Income positively influences money management.

On the other hand, the number of children is presumed to negatively relate to money management. Individuals who have children are exposed to higher consumption needs and expenditures (Chen & Chivakul, 2008; Fidrmuc et al., 2013). They face more difficulty in managing their financial responsibility. Therefore, it is hypothesized that

H10: Number of children negatively influences money management.

In addition, the number of credit card held is expected to negatively relate to personal money management practices. While more number of credit cards increase individuals' access to credit (Kim & DeVaney, 2001), it also increases difficulty in managing financial responsibility. With more number of credit cards, individuals are more likely to access to more credit sources and experience more difficulty in managing their credits. Therefore, it is hypothesized that

H11: The number of credit card held negatively influences money management.

Moreover, personal material values play an important role in determining money management practices. Materialists fulfill their needs through spending.

They are less aware of their budget and tend to overspend in the ways that detrimental their long-term financial interests. Donnelly et al. (2013) indicated that materialistic individuals tend to use less money management strategies than non-materialistic ones. Consistently, Garðarsdóttir and Dittmar (2012) also confirmed that materialism reduced money management skills and increased amount of debt. Thus, it is hypothesized that

H12: Materialism negatively influences money management.

Money Management and Debt Burden

Numerous studies indicated that poor skills in money management resulted in higher debt (Lea et al., 1995; Kim et al., 2003; Elliot, 2005; Norvilitis et al., 2006). People who manage their money well had lower debt burden. Donnelly et al. (2012) confirmed that money management assisted in lowering accumulation of debt beyond the effects of other relevant factors, such as financial responsibility or financial knowledge factor. Thus, it is hypothesized that

H13: Money management negatively influences debt burden.

Research Methodology

Target Population and Sample Size

The target population was the Thai household influencers who work in Bangkok. Thai people working in Bangkok are representatives of middle-class or middle-income people. The emphasis on middle class was conducted to ensure that the survey can be compared to other countries where middle class people dominate the population. It was estimated that there are 2,522,853 households in Bangkok in 2016 (NBTC, 2017). Yamane (1967) recommended

that a suitable sample size with a population of more than 100,000 with 95% confidence level was 400. Therefore, the recommended sample size for the present study was at least 400 respondents. Respondents were selected based on judgmental sampling technique. They were selected based on their employment status (must be in a labor force), income (must have regular income and be able to apply for credit card), and habitat (must work and live in Bangkok).

Collection of Data, and Statistic Treatment of Data

Data on factors influencing debt were all collected through questionnaire survey. Questionnaire was developed based on questions adapted from previous studies. Measurements of each variable are illustrated in the next section. Since the present study conducts in the Thai context, the questionnaire was translated into Thai. Then, back-translation into English was conducted to ensure concept equivalence and accuracy of the questionnaire. Along the process, the inconsistency of English-version and Thai-version was corrected and questionnaire was improved. Then, thirty sets of questionnaires were distributed as a pretest to ensure reliability of the questionnaire. Results from reliability test indicated that the written questions were consistently measured variables. Finally, four hundred and forty questionnaires were randomly distributed to individuals of working age in business areas in Bangkok, e.g. Sathorn Rd., Ratchada Rd. and Ramkhamhaeng Rd. These areas were selected because they were populated with middle-class working people. Field workers were used to help collect the data. These workers were supervised and monitored by the researchers in order to ensure the data quality (Malhotra, 2010). The questionnaire survey was conducted during March 2018.

The present study attempts to test multiple relationships with the mediator. Structural Equation Modeling (SEM) was selected as an appropriated method of analyzing data. SEM allows all of the hypothesized relationships to be tested simultaneously (Ho, 2006).

Measurement of Variables

First, respondents were asked to specify their information regarding their age, education, income, number of children, and number of credit card in the first part of the questionnaire.

Then, materialism was measured by 18 items developed by Richins (2004). Respondents were asked to indicate to what extent they agree with the given statements (1 = strongly disagree to 5 = strongly agree). For example, “I admire people who own expensive homes, cars, and clothes,” “I like to own things that impress people,” “I like a lot of luxury in my life,” and “my life would be better if I owned certain things I don't have.” All scores on these items are averaged in order to form the materialism variable.

Next, money management was measured through 18 items developed by Ksendzova et al. (2017). Respondents were asked to indicate how often they had engaged in the money management activities (1 = never done to 5 = always do). For example, reviewing and evaluating spending on a regular basis, setting money aside for emergencies, maintaining or purchasing an adequate health insurance policy. The score of these items, lastly, are averaged to form money management variable.

Finally, debt burden was measured through the question developed by Gathergood (2012). Respondents were asked to select the answer that best

represents their current debt situation ranging from no debt at all (code as “0”) to severe debt burden (code as “5”).

Results

The 440 sets of questionnaires were collected. However, due to missing data, only 409 questionnaires were remained in the analysis. Data analysis was conducted by SPSS version 23 and AMOS version 18. Sample characteristics and results from hypothesis testing are presented in the next section.

Descriptive Statistics of the Sample

From 409 respondents, 67% of the respondents were female and 33% were male. Majority of the respondents held Bachelor’s degree (70.4%) followed by Master’s degree (13.7%), high school graduated or vocational training (13.2%), lower than high school (1.7%), and Doctorate degree or above (1%). There are more of respondents who were single (74.6%) than married ones (25.4%). Majority of respondents did not have children (82.60%). Lastly, respondents who had credit card were accounted for 45.7% while 54.3% of respondents did not have credit card.

On average, age of respondents was 30.58. Number of children ranged from zero to six children. Number of credit card ranged from zero to ten cards. Disposable income ranged from 7,000 baht per month to one million baht with mean of 45,935.50 baht and standard deviation of 69.80.

Finding revealed that from 409 respondents, 42.8% reported that they do not have debt burden, 31.3% of total respondents indicated that they can keep up with all bills and commitments without any difficulties. About 19.1% of total respondents indicated that they can keep up with all bills and commitments but

it is a struggle from time to time, 4.6% indicated that they can keep up with debt but it is a constant struggle, 1.2% of total respondents indicated that they are falling behind the bills or credit commitment and, lastly, 1% of total respondents reported of having severe debt problems.

Reliability of the Scale

Reliability test was conducted on the materialism and the money management scale. All Cronbach's alpha coefficients are greater than minimum requirement of 0.7 (Hair et al., 2006). Materialism's Cronbach's alpha coefficient is equal to 0.798 Money management's Cronbach's alpha coefficient is equal to 0.897. Results from reliability test indicated that items used can consistently explain money management and materialism variables.

Results from Path Model

Path analysis is employed for testing the hypothesized influences of age, education, number of children, income, number of credit card, materialism, and money management on debt burden. Results from path analysis showed that 15.2% of the variations in debt burden are explained by the joint influences of the six independent variables and one mediator, money management (see Table 1).

Table 1 Square Multiple Correlations

Dependent Variables	Square Multiple Correlation Estimates
Money Management	0.159
Debt Burden	0.152

Age, Money Management and Debt Burden

The first hypothesis indicated that age positively influences debt burden. Findings revealed that age had a significant positive impact on debt burden at 0.05 significance level. Age directly and positively influenced debt burden with standardized regression weight of 0.186 (see table 2). Thus, ***Hypothesis 1 was supported***.

Regarding the indirect influence of age, the seventh hypothesis stated that age positively influenced money management. Findings revealed that age had no significant impact on money management at 0.05 significance level. Thus, ***Hypothesis 7 was not supported***.

Education, Money Management and Debt Burden

The second hypothesis indicated that education level negatively influences debt burden. As expected, education negatively affected debt burden. However, the effect was insignificant at 0.05 significance level. Thus, ***Hypothesis 2 was not supported***.

Regarding the indirect influence of education, the eighth hypothesis proposed that education positively influenced money management. Findings revealed that education significantly and positively influenced the money management at 0.05 significance level. The standardized regression weight of education on money management was 0.141 (see Table 2). Thus, ***Hypothesis 8 was supported***. Education indirectly influenced debt burden. Higher educated individuals managed their money more efficiently, resulting in lower debt burden.

Number of Children, Money Management and Debt Burden

The third hypothesis indicated that number of children positively influenced debt burden. Findings revealed the insignificant influence of number of children on debt burden at 0.05 significance level. Thus, ***Hypothesis 3 was not supported***.

Regarding the indirect influence of number of children, the tenth hypothesis proposed that number of children negatively influenced money management. As expected number of children negatively affected money management. However, its effect was insignificant at 0.05 level. Thus, ***Hypothesis 10 was not supported***. Number of Children neither directly nor indirectly influenced debt burden.

Income, Money Management and Debt Burden

The fourth hypothesis indicated that disposable income negatively influenced debt burden. Findings revealed that income negatively affected debt as hypothesized. Nonetheless, its influence was insignificant at 0.05 significance level. Thus, ***Hypothesis 4 was not supported***.

Regarding the indirect influence of income, the ninth hypothesis proposed that disposable income positively influences money management. Findings revealed that disposable income significantly and positively influences the money management at 0.05 significance level. The standardized regression weight was 0.092 (see Table 2). ***Thus, Hypothesis 9 was supported.*** Income indirectly influenced debt burden through money management. Individuals who earn higher income managed their money better, resulting in lower debt burden.

Number of Credit Card, Money Management and Debt Burden

The fifth hypothesis indicated that the number of credit card positively influenced debt burden. Findings revealed the significant positive influence of the number of credit cards on debt burden at 0.001 significance level. The path coefficient of number of credit card on debt burden was 0.212 (see Table 2). Thus, ***Hypothesis 5 was supported***. Number of credit card directly influenced debt burden.

Regarding the indirect effect, the eleventh hypothesis proposed that the number of credit card held negatively influenced money management. Findings revealed that the number of credit card negatively affected money management. However, its effect was not significant at 0.05 significance level. Thus, ***Hypothesis 11 was not supported***.

Materialism, Money Management, and Debt Burden

The sixth hypothesis stated that materialism positively influenced debt burden. Results showed that the influence of materialism on debt burden was not significant at 0.05 level. Thus, ***Hypothesis 6 was not supported***.

Regarding its indirect influence, the twelfth hypothesis proposed that materialism negatively influenced money management. Findings indicated that materialism significantly influenced money management at 0.001 significance level and the standardized coefficient of materialism was negative, -0.322, as expected (see Table 2). Thus, ***Hypothesis 12 was supported***. Materialism indirectly influenced debt burden. High materialists were exposed to poor money management, hence, higher debt burden.

Money Management and Debt Burden

The thirteenth hypothesis proposed that money management negatively influenced debt burden. As expected, findings revealed that money management significantly and negatively influenced debt burden at 0.001 significance level (see Table 2). The path coefficient of money management on debt burden was -0.24 (see Table 2). Better money management significantly reduced debt burden. Thus, ***Hypothesis 13 was supported***.

Table 2 Results from Path Analysis

Direct Path (Independent variable → Debt Burden)		
Independent variables	**Dependent variable**	**Standardized Regression Weights**
Age	Debt Burden	0.186*
Education	Debt Burden	-0.034
Number of children	Debt Burden	-0.015
Disposable income	Debt Burden	-0.057
Number of credit card	Debt Burden	0.212**
Materialism	Debt Burden	0.044
Indirect Path (Independent variable → Money Management)		
Age	Money management	0.077
Education	Money management	0.141*
Number of children	Money management	-0.037
Disposable income	Money management	0.092*
Number of credit card	Money management	-0.043
Materialism	Money management	-0.322**
Path (Money Management → Debt Burden)		
Money management	Debt Burden	-0.24**

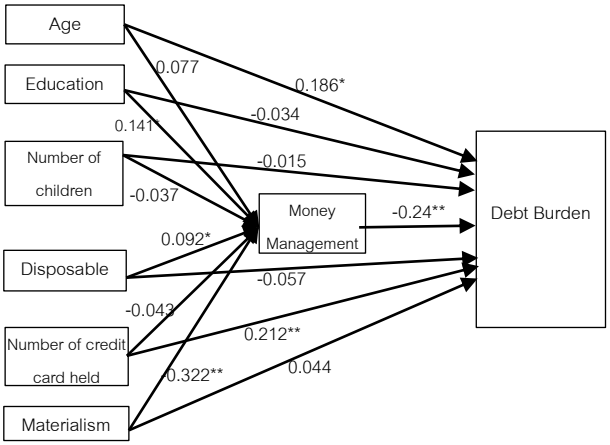
Remark: **at 0.001 significance level, *at 0.05 significance level.

Conclusions

Results from hypotheses testing indicated that out of the six independent variables, only age and number of credit cards were directly influenced debt burden. As people became older, they tended to borrow more and incurred higher debt burden (Ando & Modigliani, 1963; Hanna et al., 1995). Number of credit cards held by individuals also directly and positively affected debt burden. As people had more access to credit, they tended to borrow more and increased their debt burden (Kim & DeVaney, 2001).

Although the direct effects were insignificant, education, disposable income, and materialism were found to indirectly influence debt burden. Their effects were mediated by money management. People with higher education managed their money better, resulting in low debt burden. High income people had more flexibility in managing money. They managed money more efficiently, resulting in lower debt burden. Material values also have indirect significant impact on debt burden. Low materialistic people were more aware of their budget. Their management of money were not driven be material needs. They tended to manage their money well, hence had less debt burden (Garðarsdóttir & Dittmar, 2012).

However, number of children neither directly nor indirectly influenced debt burden. Number of children was found to insignificantly affect money management and debt burden. The conclusion on hypotheses testing were illustrated in figure 1



Remark: **at 0.001 significance level, *at 0.05 significance level.

Figure 1 Path Model of the study

Discussions and Policy Implementation

The results from hypotheses testing indicated that number of credit cards held by individuals was found to directly and significantly impact debt burden. This may raise a concern on credit card policy implementation. Policies that attempt to limit the number of credit cards held by individuals may help reduce debt severity problem. In addition, strictly monitoring credit usage or keeping record of credit usage must be strictly implemented. Credit using record must be the first criterion in order to give loan.

In addition, the incorporation of money management as a mediator sheds light on policy implication in reducing debt problem. Disposable income, education, and personal's material values had found to indirectly influenced debt burden -these linkages were significantly mediated by money management practices. Thai people with higher education, higher disposable

income, and low material values were better in managing their money, which in turn lead to lower debt burden. Money management behavior has power to explain debt burden, beyond other economics and demographic variables. Implementation of the policies to shape individuals' behavior on how to manage their budget, expenditure, saving, credit and long term financial plan (e.g. insurance) must be a critical factor in reducing debt burden. For example, school education should emphasize on how to keep record of income and expenditure, how to set budget, how and where to save, how and where to invest, and how to make a long-term financial plan (e.g. insurance and pension fund). Results from the survey reveal that less of the sample has invested in long-term financial plan. Less of respondents had bought insurance and reviewed insurance payment plan which is the proxy of long-term financial well-being. In addition to school education, policy makers may provide financial counselors or professional training units that aim to provide advices or coach individuals on how to manage cash, saving, credit may be necessary to help reduce debt problem.

Limitations of the study and Suggestions for Future Research

The present study was subject to some limitations. Firstly, this study used a sample of respondents who are all in working ages in Bangkok, Thailand, the generalizability of the results to other countries and other cultures may be limited. Future research may study factors influencing debt burden in different contexts. Respondents from various countries, values, and culture may expose to difference factors affecting debt burden.

Secondly, the present study emphasized the impact of economic and demographic variables on debt burden and included only one socio-

psychological factor, i.e. materialism into the analysis. Future research may expand the investigation by adding more psychological factors (e.g. self-control, self-esteem, stress, compulsive buying) into the analysis since other psychological factors may be able to explain more of money management practices and debt burden.

Finally, the present study measured debt burden through self-assessed questionnaire survey. Self-assessed questionnaire is subject to some limitations, in which respondents may try to give desirable answers. Especially, some respondents may be unwilling to disclose their sensitive information, particularly their debt burden due to embarrassment or respondents' prestige (Malhotra, 2010). Future research may incorporate credit information of respondents acquired by secondary sources (e.g. banks or financial institutions) into the analysis to make the analysis more accurate.

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