

# Predictors of Bankruptcy Probability among Malaysian Civil Servants : Examining the Subjective Measurement.

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## Abstract

Bankruptcy and its impact on the quality of life among Malaysian civil servants has received considerable attention from many authorities. The purpose of this study is to examine the determinant factors of civil servants' bankruptcy probability in Malaysia. The results of this study can be used to predict the possibility of bankruptcy. The knowledge of this early warning model may help to prevent the consequences or reduce the possibility of bankruptcy among Malaysian civil servants. It can be also used for a better understanding of the relationship on bankruptcy probability by highlighting the determinant factors such as asset ownership, attitude towards debt, and financial management practices. Samples were selected by using multi-stage cluster sampling technique among civil servants in public sectors. A total of 399 completed questionnaires were analysed using logistic regression to identify the probability of bankruptcy among the civil servants. The results identified that the possibility of bankruptcy is significantly determined by asset ownership, attitude towards debt, and financial management practices.

*Keywords* : Bankruptcy probability, asset ownership, attitude towards debt, financial management practice

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## 1. Introduction

Managing money effectively has become a thought-provoking task for many Malaysians. There are scarce research on bankruptcy probability among Malaysians' especially on civil servants. Mismanagement of financial resources add up to the number of bankruptcy cases among civil servants in the country and this not only negatively pressures an individual but also affects their respective families and society. Based on a report from the Malaysian Department of Insolvency (2011), due to these heavy debts, the rate of civil servants declared bankrupt in 2009 was 1,086. However, this figure has been raised to 3000 people in 2011 (Mokhtar, Husniyah, Sabri, & Talib, 2015; Lee & Singh, 2013). Eventhough it is only a fraction out of the 1.42 million civil servants who have gone bankrupt, the figure is still considered very high. By right, civil servant should not become bankrupt because they are the largest contributors to the country's Gross Domestic Product and for the economic development (Bernama, 2013). However, without careful planning, unexpected financial instability may occur. According to Razali (2011), due to a

wrong decision, there are people who are unable to supervise their finances consistently. Some are even not able to pay their overflowing credit card bills, loans or even monthly installments. Due to this, they may face a debt trap and even be charged with personal bankruptcy. Hence, this study is aimed to predict the bankruptcy probability of civil servants based on their asset ownership, attitude towards debt and financial management practices. It also explores the relationship between asset ownership, attitude towards debt, financial management practices and bankruptcy probability among civil servants in Malaysia. Understanding the determining factors related to bankruptcy among them is crucial to develop appropriate strategies in the government system to promote a better financial standing.

## **2. Literature Review**

### *2.1 Bankruptcy Probability*

Bankruptcy issues has become a main concern among government and non-government organisation in recent decades. According to the Malaysian Department of Insolvency, 'bankruptcy' is defined as the condition of a debtor who has been held by the judicial process to be insolvent or unable to pay his debts as they fall out of his or her assets. A bankrupt is someone who has officially declared that he or she is unable to pay back their outstanding debts. According to the Malaysian Bankruptcy Act 1967, an individual does not need to owe millions to be bankrupt. Having a minimum amount of RM30,001 in outstanding debt can initiate bankruptcy (Law of Malaysia, 2006).

According to Garner (1996), the increase in number of personal bankruptcies paint a strikingly different image of consumer financial hardship in western countries. In 1996, he stated that more than 271,000 cases of personal bankruptcy incidents were filed and this depicted a short indicator of economic weakness. In addition, Garner (1996) described that an economy in the household sector with a secure financial situation is associated with low debt levels, while it may experience financial distress if there is an increase in higher debt risk. Many scholars such as Bland et al., (2007), Domowitz & Sartain, (1999) and Clements et al., (1999) justified that debtors whom adjudge a bankruptcy status are also inclined to have a high level of unsecured debt especially credit card debts. Apart from that, the Department of Insolvency (2011) and Rajna (2011) also stated that failures to settle outstanding balance, together with poor financial management were the main factors of bankruptcy in Malaysia.

### *2.2 Asset Ownership*

Saunders (1978) defined asset ownership, especially owning a home as something that raises a sense of "ontological security," which mean there is mastery over one's resources and physical distance. A debtor without owning a home is seven times more probably to be charged for bankruptcy compared to the ordinary home owner (Guyen & Sorensen 2011; Domowitz & Sartain, 1999). Based on the findings by Guven & Sorensen (2011), Wei & Shang-Jin (2011) and Diaz-Serrano (2009), it can be reasoned that home ownership can bring advantage to a person's subjective well being. For instance, the owner may develop a higher level of personal security once they own a home. Complementary to this, owning a home can also contribute to a negative well-being according to Parker et al., (2011). Similarly, Visa (1997) and Elangkovan (2012) stated that another contributing reason to personal bankruptcy is household expenses on durable consumption goods, such as homes and cars.

Meanwhile in Malaysia, asset ownership has also become one of the reason of bankruptcy due to hire purchase (purchase on the installment plan for vehicles) and housing loan (Department of Insolvency, 2013). To illustrate, Ching (2012) explained that the lifestyle of Malaysians can be seen as a conspicuous symbol of riches through the type of houses and automobiles owned by them. However, failure to pay the back such a huge interest rate for the loan and debt by the borrower will lead to bankruptcy (Ching, 2012). With regards to this, there are many deliberation among the researcher on asset ownership. The argument whether to own or rent a home still poses a big question mark in the field of family economy (Warren and Tyagi, 2003). Furthermore, a lack of studies has acquitted the number of home ownership factor.

### *2.3 Attitude towards Debt*

Pankow (2012) defined attitudes as an individual's state of mind, belief and assessment about the universe in which they live. In substance, it reflects a position that a person has contracted with their values and is much more flexible than values. Existing research has shown that attitude plays an important role since it is one of the most potent influences of behavioural intentions (Hrubes, Ajzen, and Daigle 2001). In term of finance, Zhu (2008) argued that some households jeopardise their financial protection or security by spending beyond their means and capacity. In such situation, it causes the households to easily fall into bankruptcy due to their incapability to pay off their outstanding payments to creditors. Subsequently, empirical studies in Malaysia reported that, more young executives were declaring bankruptcy because of their excessive usage of credit cards. Their findings helped by providing useful information to know the factors that contributed to bankruptcy and increased their awareness on credit card and bankruptcy issue among young executives (Noordin et al., 2012 ; Endut & Toh, 2009). It can be summarised that there are numerous variables that has been used in previous studies, for instance money attitude, attitude towards credit, attitude towards spending and various measured factors that relate to the attitudes individuals hold towards money. However, in this study, the attitude towards debt variable was selected because it is more relevant pertaining to bankruptcy probability and helps to measure a person's willingness to acknowledge and value their beliefs or practices on level of debts.

### *2.4 Financial Management Practice*

Based on Jodi (1996), Godwin (1994), and Deacon & Firebaugh (1988), financial management practices are defined as a group of behaviours which are used to execute the planning, implementing and evaluating of financial matters. In western countries, the result of research studies on financial management broadly discovers that adults who commonly practice financial management will hardly go into financial difficulty (Joo and Grable, 2004). Essentially, financial management practices are suggested by financial councils in order to avoid an excessive consumption among heavy spenders who are not aware of the practices of a financial management system (Pham, Yap, and Dowling, 2012). Similarly, people who are neglectful with money also do not practice good financial management (Tatzel, 2002).

While in Malaysia, the empirical study by Rajna (2011) has demonstrated that mismanagement of their financial resources among medical doctors lead them into a bankruptcy trap. Moreover, it also can cause severe problems and usually destroys their credit and total net worth for anyone who survives it. Another essential point by Husniyah (2009), rising debts can cause the individual and their family to grow apart

and can bring a negative impact on them in many ways. Thus, being bankrupt is not something to be taken lightly especially on civil servants.

Next, Ahmed et al., (2010) briefly outlined that there is a lack of subject areas on the prediction for household or individual bankruptcy in Malaysia. It is also noted that a number of studies have been carried out in an attempt to predict business failures but not on household or civil servants (Ahmed et al., 2010; Lee, 2007; Kassama, 1996). Even in western countries, bankruptcy is a cause of concern and research has been done regarding the factors that contribute to bankruptcy, but not on the prediction of bankruptcy before it occurs. Nevertheless, the fact is that there are still a limited number of research being conducted on bankruptcy prediction on civil servants. Hence, this study contributes to a significant gap in the literature from an academic and managerial perspective.

### **3. Methodology**

The sample for this study comprised of 399 civil servants in Federal Territory of Putrajaya since it serves as the federal administrative centre of Malaysia. Samples were selected using multi-stage cluster sampling technique. The data was collected using electronic survey questionnaire which was distributed through human resource personnel of selected Ministry. Instrument for the study was adopted from Nguyen et al., (2011), Rajna (2011), Jariah (2007), Davies & Lea (1995), Porter & Garman (1993), and Godwin & Carroll (1986). The data obtained was coded and analysed using SPSS. After exploratory data analysis, the data was analysed using logistic regression method to identify the probability that determinants of bankruptcy among Malaysian civil servants.

#### *3.2 Research Instrument and Measurements*

##### *3.2.1 Bankruptcy Probability*

The civil servants' bankruptcy probability (subjective) was asked in terms of perception of the respondents whether they have probability to go into bankruptcy within five years time. It was measured with a six-point-likert type question because it would be easier to convert a likert scale to a binary answer format "bankrupt" and "not bankrupt" (Preston and Colman, 2000). Since there were no other suitable items developed from the previous research measuring bankruptcy probability among civil servants, two items were generated for this section.

##### *3.2.2 Asset Ownership*

A three-items instrument was developed, including the statements such as home ownership, type of house and the number of home ownership.

##### *3.2.3 Attitude towards Debt*

Civil servants' attitude towards debt was examined using a seven point likert-type questions. Approximately 8 questions were asked to measure the perceptions of the respondents towards debt. In this

section, the respondents' were asked to choose how rational the respondents were with their attitude towards debt. A higher aggregate of the score for each of the components represents a positive rational attitude towards debt as compared to the lower aggregate of scores. The Cronbach's alpha for attitude towards debt was 0.68.

### 3.2.4 Financial Management Practice

Civil servants' financial management practices was examined using a seven point likert-type questions. Approximately 21 questions were asked to measure the degree of cash management, credit management, risk management, general management and credit planning. The items in each of the financial management components were summated on an individual basis in order to evaluate the financial management practices. A higher aggregate of the score for each of the components represents a positive participation in the practices as compared to the lower aggregate of scores. The Cronbach's alpha for financial management practices was 0.85.

## 4. Results and Discussions

### 4.1 Profile of respondents

The sample of this study consisted of 399 civil servants. By age group, 30.4 percent of the respondents were between of 20 to 30 years old while those who were under the age group of 31 to 35 years old were 33.3 percent. The remaining 36.3 percent was for those who were between the age group of 36 to 46 and above. In terms of gender, 40.9 percent of the respondents are male and 53.2 percent were female. The proportion of married and singles were 75.2 percent and 24.8 percent respectively. From the total sample, almost 19 percent of the respondents had one or two household members. Over 41 percent of the respondents reported having three or four household members. Almost 30 percent of the respondents had five to six household members and only 40 of the respondents reported having more than six household members in the family. In terms of occupational grade, 63.4 percent of the respondents were from Management and Professional (Grade 41-54) group while those supportive group made up 36.6 percent.

### 4.2 Descriptive Statistics

#### 4.2.1 Asset Ownership

The findings of the descriptive analyses for home ownership showed that 55.4 percent of the total civil servants owned only a home. Roughly 32.8 percent of the respondents did not own any home and 11.8 percent owned more than one home. The types of home ownership of the civil servants consisted of bungalow, shop house, single storey terrace house, double storey terrace house, semi-d house, apartments, condominium and other types.

#### 4.2.2 Attitude towards Debt

Figure 1 shows the mean score of attitude toward debts among civil servant in Putrajaya, Malaysia. Higher mean scores indicate a positive rational attitude towards debt while lower mean scores shows a

negative rational attitude towards debt. In this study, rational attitude towards debt is defined as a person’s perceptions regarding the ability to think logically about the importance of taking debts as a state of mind, opinions and judge debt tolerance in civil servants. From this result, civil servants’ attitude towards debt in the areas of living within means, installment payment and perception on debts were tested. The respondents’ mean score achieved for item ‘Common to have debts’ is 3.54 as the lowest score followed by mean score for item ‘Debts is a normal part of today’s lifestyle’ (M=3.68). Based on these findings, it can be interpreted that the respondents have a negative rational attitude towards debt especially when it involves perception on debt components.

Contradicting to this, some respondents have a higher mean score for item ‘It is important to live within your means’ and ‘You should not borrow money to go on a vacation’ which were 6.33 and 6.20 respectively. This demonstrated that the respondents had a positive rational attitude towards debt since they think they are living within their means and borrowing money for vacation is not a good thing. Generally, it can be concluded that the respondents had a positive rational attitude towards debt especially when it was related to living within the means components because the mean score for all the items were higher except for the perception on the debt components.

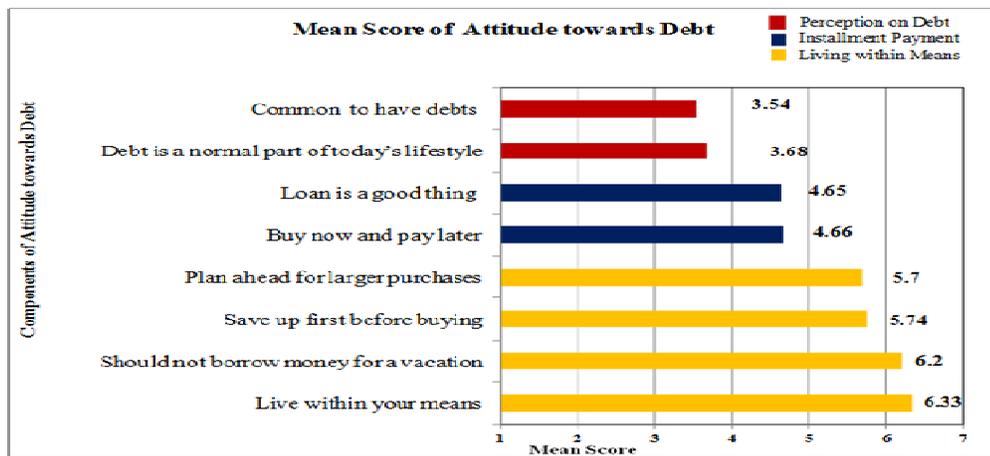


Figure 1 : Mean Score of Attitude Toward Debts Components

4.2.3 Financial Management Practices

Figure 2 shows the mean score of financial management practices among civil servant in Putrajaya, Malaysia. Civil servants’ financial management practices in the areas of credit management, cash management, credit planning, risk management and general management were tested. Higher mean scores indicate positive financial management practices while lower mean scores shows negative financial management practices. The mean score achieved for item ‘Each year I review the adequacy of the insurance coverage I have’ was 3.39 and this was the lowest score followed by mean score for item ‘I take opportunity of life insurance to generate wealth’ and ‘I have adequately insured my personal properties’ with 3.48 and 3.62 respectively.

On the other hand, respondents also scored highest mean scores for item ‘\*Sometimes I write bad cheques or one with insufficient funds’ (M=6.41) and ‘\*I obtain cash advances in order to pay my credit balances’ (M=5.79). Besides that, the mean score for item ‘\*I have trouble paying for monthly health care expenses, including premiums for health insurance’ was 5.47. All these negatively worded items (\*) were recoded before obtaining the mean score.

In brief, it can be concluded that the respondents had positive financial management practices especially when it was related to credit management, cash management, credit planning, general management components except for risk management components because the mean scores for all the items were higher except for the risk management components.

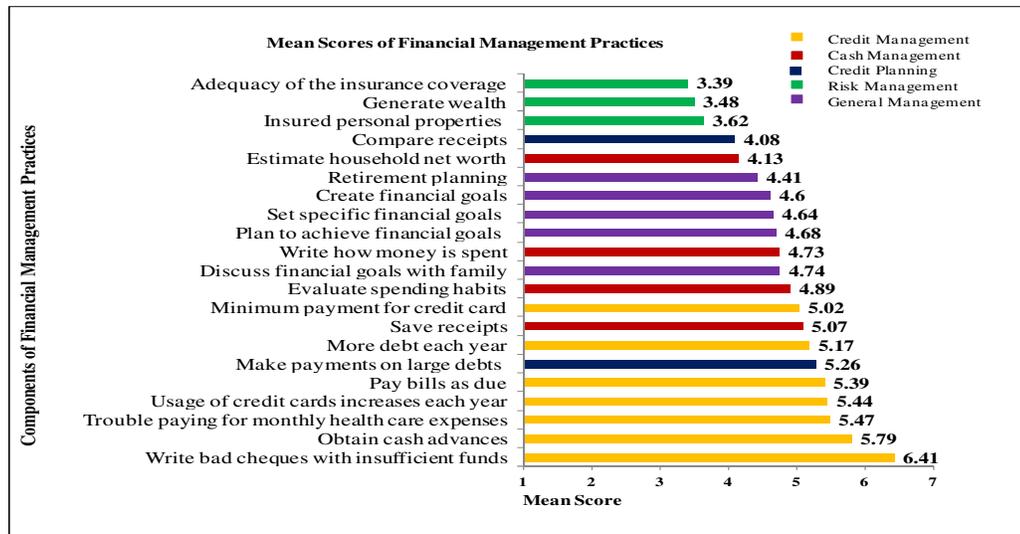


Figure 2 : Mean Score of Financial Management Practice Components

#### 4.4 Predicting bankruptcy probability

The results presented in Table 1, indicate that attitude towards debt ( $\beta = -.081$ ,  $p \leq .05$ ), financial management practices ( $\beta = -.054$ ,  $p \leq .05$ ) and asset ownership (home ownership) ( $\beta = 1.475$ ,  $p \leq .05$ ) significantly predicted bankruptcy among Malaysian civil servants. Furthermore, the attitude towards debt had also become a significant predictor, according to the significant value of ( $p = .002$ ). Exp (B) or the odds ratio was studied as an indicator of the change in the odds of bankruptcy occurring resulting from a unit change in one unit of the independent variable. According to Tabachnick and Fidell (2007), the odds ratio represents ‘the change in the odds of being in one of the categories of outcome when the value of a predictor increases by one unit’. For an example, attitude towards debt recorded an odds ratio Exp( $\beta$ ) of .922. This explained that the civil servants who had negative rational attitude towards debt were nearly over 1 time more likely to report bankruptcy probability than those who had positive rational attitude towards debt. Again, the negative beta value ( $\beta$ ) in Table 1 interprets that a positive rational attitude towards debt helped decrease the probability of bankruptcy among civil servants and negative rational attitude will increase the probability for them to fall into bankruptcy.

It is clearly shown that financial management practices have the highest effect on bankruptcy probability among civil servants since it achieved a significant value of ( $p = .000$ ). The odds ratio  $\text{Exp}(\beta)$  of .948 for financial management practices indicated that for every civil servant, increases in financial management practices were nearly 1 time more likely to avoid falling into bankruptcy and failure to practice good financial management or poor financial management practices among them can increase the chances of them becoming bankrupt.

Besides that, asset ownership that consisted of home ownership was also one of the important variable that predict the bankruptcy probability. Again, Table 1 displayed the odd ratio  $\text{Exp}(\beta)$  for the home ownership for those respondents who owned at least a home was 4.370, indicating that for every additional unit of the home / house, the respondents were 4 times more likely to become bankrupt.

**Table 1: Logistic Regression: Reporting a Bankruptcy Probability**

Constructs	$\beta$	Standard Error.	Wald	df	Sig	Exp( $\beta$ )	95% C.I.for Odds Ratio	
							Lower	Upper
Attitude Towards Debt	-.081	.026	9.483	1	.002	.922	.876	.971
Financial Management Practices	-.054	.011	22.910	1	.000	.948	.927	.969
Home			14.584	2	.001			
Home (atleast a home)	1.475	.390	14.296	1	.000	4.370	2.035	9.385
Home(2 and above)	.478	.819	.341	1	.559	1.613	.324	8.022
Constant	4.218	1.890	4.983	1	.026	67.924		

a. Variable(s) entered on step 1 AttitudeDebt, Financial Management, Home

## 5. Conclusions and Implications

The main objective of the present study was to understand the determinants of bankruptcy probability among Malaysian civil servants. The research employed logistic regression model to predict the bankruptcy probability of civil servants based on their asset ownership, attitude towards debt and financial management practices. In some manner, it seemed that the risk management among civil servants were still at the lowest level compared to other components of financial management practices especially when it involved insurance matter such as life and property insurance policy. Thus, this might give a negative impact in the long run if it is not handle appropriately in the future because in life there are many financial emergencies which may limit or take away a person's earning capacity. Some even require an individual come up with a substantial amount of money urgently. To cope with these unwanted situations, it is important to have risk management practices that will help an individual deal with such situations. Besides that, it can be summarised that not many civil servants have an adequate savings to handle their future expenses and are also unable to allocate a larger down payment for a substantial purchase like home or vehicle. Moreover, they also have the perception that it is common to take and have debts without knowing the consequences.

Findings of the present study showed that asset ownership, attitude towards debt, and financial management practices significantly predicts bankruptcy probability. This finding was similar to studies conducted by Elangkovan (2012) and Visa (1997). Researchers have mentioned that those who have more than one home and cannot afford to pay their housing loan are prone to be bankrupt in the future. Apart from that, the study results reinforces survey findings about financial management practices from Joo and Grable (2004); Warren and Tyagi (2003), who reported that the outcome of research studies on financial management broadly discovers that the adults who commonly practice financial management will hardly go into financial difficulty.

In conclusion, findings of this study suggest that, in the long run, if an individual's financial standing is still not improvised, they might face financial pressures and mounting debts that can often cause many negative consequences such as bankruptcy, family problems, depression and so on. Besides that, when an individual over spends for unnecessary wants, not living within their means and failed to understand the consequences of taking debts, this might lead them to fall into a bankruptcy trap. Therefore, understanding the underlying factors predicting the bankruptcy probability among civil servants can help prevent this issue before it becomes a serious problem. Due to this weakness, a sound financial situation was expected from financial management practices for both participating departments and individual level. An effective financial training programme should be provided as fundamental proficiencies together with ways to improve capacity to produce a desired effect, as this can assist the civil servants to manage financial resources wisely. Not only that, the respective civil servants have to save at least 10 percent or more of their income every month because this will be converted into more money for their future. A budget can help civil servants develop a saving habit especially in saving more cash for the down payment and apply for smaller and shorter loan tenure. Also, civil servants need to be mindful that they should only borrow to meet their needs and not their wants. The better a person is at managing their finance, they can prevent themselves from being bankrupt.

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