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Predicting debt burden status among Malaysia civil servants

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ABSTRACT

The pressure of high inflation rate and increased cost of living has invoked the concerns over the problem of debt among civil servants in Malaysia. This paper aims to investigate the determinants of debt burden status within a civil servants' sample. Questionnaires were distributed using a multi-stage random sampling method. A total of 600 responses were collected. Results from logistic regression showed several significant predictors of debt burden status, namely savings to income ratio, financial status, and income adequacy. This study outlined the predictors of debt burden status among Malaysian civil servants, providing civil servants with some ideas to counter debt issues which have been prevalent for a long time.

1. Introduction

1.1 Introduction to the problem

The growth in inflation rate has been burdening Malaysian household in the past few years. The average Consumer Price Index (CPI) showed an increase from year 2017 to 2018 (Department of Statistics Malaysia, 2018), mainly leading by rise in prices in terms of housing, water, electricity, gas and other fuels (+2.1%), food and non-alcoholic beverages (+1.2%), restaurants and hotels (+1.2%). The phenomenon suggests that Malaysian households have been experiencing greater difficulty in sustaining their standard of living given constant income level. With salary hike lagging behind rising inflation, households' finance status continues to take a beating, and the consequences have been particularly notable for those who possess an unmanageable sum of debts.

Notably, Malaysian civil servants have been reported as a significant group facing debt problems. Based on a recent report by Bank Negara Malaysia (2018) the outstanding civil servants' debt has been rising since 2012, and the borrowing from civil servants are substantially higher than that of the national average (Bank Negara Malaysia, 2018). A closer look into the composition of borrowing shows that nearly half of civil servants' borrowings are for consumption purposes, such as personal financing and motor vehicles. More importantly, civil servants' debt repayment capacity has been reported to be lower

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compared to average borrowers. In general, civil servants spend more than half of their monthly income on repaying debts incurred and thus leaving them with little usable income for emergency purposes. Consequently, it has been documented that more than 49,000 Malaysian civil servants are facing bankruptcy due to debt problems (Bank Negara Malaysia, 2018).

Despite the efforts by the government, especially Bank Negara Malaysia, in conducting various financial education and outreach programmes such as Duit Saku and Power!, the problems of financial management among civil servants continue to escalate. Inevitably, carrying an exceeding amount of debts is likely to create perceived burdens among civil servants, and probably jeopardize their financial well-being. The string of consequences potentially triggered by debt burden is disastrous and should not be underestimated as civil servants are workers who directly involved in a country's development. For instance, financial distress has been proven to be directly related to employees' productivity (Hogarth & Hilgert, 2002). Therefore, an examination of predictors influencing debt burden status appears to be necessary as a first step to curb debt problems among Malaysian civil servants.

Financial illiteracy and undesired financial behaviours appear to be two important financial related variables influencing individuals' financial outcomes. Low level of financial literacy causes individuals to be incapable of executing optimal financial planning (Consumer Research & Resource Centre, 2012; Hogarth & Hilgert, 2002). On top of that, poor financial behaviours, such as lack of budget planning and accumulating excessive debts may result in an increased feeling of burden (Malaysian Financial Planning Council, 2016). Besides, it is hypothesized in this study that socioeconomic status may predict debt burden status since a similar amount of debts may be perceived differently in terms of their burdening level by individuals with different socio-economic status. In brief, this study seeks to understand the factors (financial literacy, financial behaviours, and socioeconomic status) predicting civil servants' debt burden status, aiming to provide a preliminary view for practitioners to counter debt-burden.

1.2 Theoretical Background

The Life-Cycle Hypothesis (Modigliani & Brumberg, 1954) serves as the basic theory to explain this research framework. The Life-Cycle Hypothesis remains an essential part of an economist's thinking despite many challenges, mostly from psychologist economist. The theory has continuously provided a framework on intertemporal issues, both on an individuals and economy-wide level (Deaton, 2005). The theory assumes individual/household plans their lifetime consumption patterns to maximize the total utility it acquires from consumption during their lifetime. Therefore, individuals would maintain the same level of consumption throughout their lifetimes by taking the debt or liquidating their assets (Sablik, 2016). By using up the assets or liquidating the assets, individual/household can allocate a certain amount for retirement or alter their consumption for the different need at different ages (Deaton, 2005). Several studies have used to explain how household/individual spending would reflect future consumption pattern of spending (Murphy, 1998; Baek & Hong, 2004) using the Life-Cycle hypothesis.

1.3 Conceptual Framework and Hypotheses

The research model for this study in Figure 1 can be explained based on the Life-Cycle Hypothesis. On the part of socio-economic are savings to income ratio, financial status and income adequacy. These variables may approximate the financial burden of household/individual. If the individual spent too much, therefore he/she will have a low level of saving, own more debt than assets and also face insufficient income. This may lead to excessive debt or dissaving, according to Bael and Hong (2004). Apart from

that, a sound decision regarding the financial matter can be made if individual/ household have enough financial literacy and good financial behaviour.

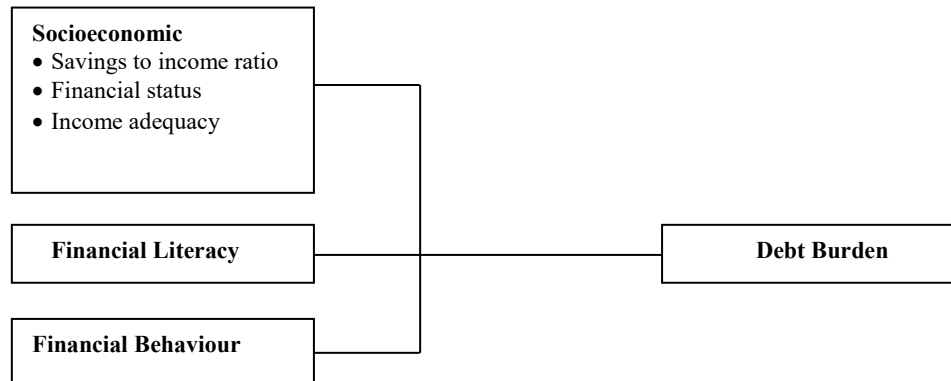


Fig. 1. Conceptual Framework

Socio-economic such as financial status and save for future use were likely to predict debt behaviour in the future (Baek & Hong, 2004). The socioeconomic might as well influence the tendency of individual/household to borrow. Not only that, but financial literacy has also been found to predict debt burdens as stated by previous researchers (Gathergood, 2012; Huston, 2010; Idris et al., 2016) where financial knowledge may lead to better financial decisions and minimise the tendency to be in debt. Whereas, financial behaviour and attitude become among the factors leading to high debt burden among individuals (Idris et al., 2016). Therefore, it is hypothesised that:

H1: Savings to income ratio, financial status, income adequacy, financial literacy, and financial behaviour do significantly predict debt burden

2. Method

2.1 Sampling

Multi-stage random sampling was used in this study. Government agencies located in Peninsular Malaysia were targeted in the first phase of sampling. Firstly, the states were divided into four zones as suggested by Syed Hussain, Nasarah and Othman (2016). The zones involved were the North (Perlis, Kedah, and Penang), South (Johor, Malacca and Negeri Sembilan), East (Terengganu, Pahang and Kelantan) and Central (Perak, Selangor, Wilayah Persekutuan Putrajaya and Wilayah Persekutuan Kuala Lumpur) zones. Next, a single state was randomly selected through a ballot to represent the sample zone. As a result, the state of Penang, Malacca, Pahang and Wilayah Persekutuan Putrajaya were selected respectively to represent each zone. Subsequently, based on a list of government agencies located in the selected areas, five government agencies were again randomly selected from each location through a ballot. Finally, respondents were randomly selected from each agency. According to the Department of Statistics Malaysia in 2018, there were at least 14.94 million of the labour forces in Malaysia in November 2018. As suggested by Dilman (2007), the required sample size for this study was 384 respondents. However, a total sample of 600 respondent was selected to avoid measurement error and to compensate for lost and unreturned questionnaires.

2.2 Data collection and Measurements

The questionnaires were self-administered by the respective respondent in the selected government agencies. Informed consent was obtained from each respondent before the study. The respondents took part in the study after being briefed with the aim and importance of the study. The questionnaire was designed in closed-ended forms with all possible answers provided, and respondents were required to choose the answer, which reflects them the most. All measurements used for this study were adopted from previous relevant studies. The details for each measurement and their codings in the logistic regression are presented as in Table 1. The codings were such that a score of '1' reflected a debt burden while the codings for the groupings of each of the variables showed low savings, low financial status and low-income adequacy.

Table 1. Summary of measurements

Variables Name	Dichotomous variables
Debt burden status	0 - Not Burden 1 - Burden
Savings to income ratio Reference group = $\geq 20\%$	
0%	0 - $\geq 20\%$ 1 - 0%
1% - <10%	0 - $\geq 20\%$ 1 - 1% - <10%
10% - <20%	0 - $\geq 20\%$ 1 - 10% - <20%
Financial status Reference group = Assets more than debt	
Assets less than debt	0 - Assets more than debt 1 - Assets less than debt
Assets equal to the debt	0 - Assets more than debt 1 - Assets equals to debt
Income adequacy Reference group = Enough for most things and savings	
Not enough	0 - Enough for most things and savings 1 - Not enough
Enough for the only basic necessity	0 - Enough for most things and savings 1 - Enough for an only basic necessity
Enough for most things	0 - Enough for most things and savings 1 - Enough for most things
Financial literacy	Continuous variable
Financial behaviour	Continuous variable

i) Socio-Economic Status

In predicting debt burden status, socio-economic status was measured using several variables, such as savings to income ratio, financial status, and income adequacy. All variables were coded on a categorical scale. The savings to income ratio was categorised into four levels, which are 0%, 1%-<10%, 10%-<20% and $\geq 20\%$. For financial status, respondents chose three response options which are (1) assets less than debt; (2) asset equals to debt and; (3) assets more than debt. With regards to income adequacy, respondents were asked to choose from the following options: (1) not enough; (2) enough for necessities; (3) enough for most things and; (4) enough for most things and savings.

ii) Financial Literacy

The measurement of financial literacy consisted of 17 statements that were adopted from Sabri, MacDonald, Hira and Masud (2010) concerning the general knowledge level towards finance. Respondents were asked to choose “True” or “False” after reading each statement. One point was given for each correct answer.

iii) Financial Behaviour

Financial behaviour consisted of 23 questions measured on a 5-point frequency scale, from (1) never to (5) always. The measurement was adopted from Barberis and Thaler (2003); Stawski, Hershey, and Jacobs-Lawson (2007); Rajna and Anthony (2011) and Mien and Thao (2015).

3. Results

Descriptive analysis was performed to understand the background of the respondents. As shown in Table 2, demographic variables included in this study were gender, age, ethnic, marital status, level of education and monthly income.

Table 2. Socio-demographic Characteristic

Variables	Frequency (N=600)	Percentage (%)
Gender		
Male	246	42
Female	340	58
Age		
<29 years old	144	24.5
30-39 years old	312	53.5
40-49 years old	88	15
50 years old and above	42	7.2
Ethnic		
Malay	538	92.8
Chinese	16	2.8
Indian	12	2.1
Others	14	2.4
Marital Status		
Single	165	28.2
Married	420	71.8
Education Level		
Secondary	29	48.3
Tertiary	302	51.7
Household Income		
< RM3,000	247	42.8
RM3,000-RM4,999	208	36
RM5,000-RM6,999	100	17.3
≥RM7,000	22	3.8

Most of the respondents were female (58%). In terms of age, a higher percentage of the respondents (53.2%) aged between 30 to 39 years old, followed by 23.5 per cent of the respondents aged less than 29 years old. Majority of the respondents were Malay (92.8%). A total of 72 per cent of the respondents were married. With regards to educational level, respondents with secondary (48.3%) and tertiary education level (51.7%) were nearly equally distributed. Most of the respondents (42.8%) have income less than RM3,000 per month, followed by 36 per cent of the respondents earned RM3,000 to RM4,999 per month, and 17.3 per cent of the respondents earned RM5,000 to RM6,999 monthly.

3.1 Logistic Regression Model

The binary logistic regression analysis model was carried out on the data because the dependent variable is a dichotomous measurement (Debt burden status) with three predictor variables (refer to Table 1). The logistic regression performed to examine if the binary variable (Debt burden status = Not Burden (0) and Burden (1)) differed in terms of socioeconomic status, financial literacy and financial behaviour (categorical/continuous scale). Table 3 exhibited the results of logistic regression analysis concerning the factors influencing the likelihood of debt burden status among civil servants. As demonstrated in Table 3, the Hosmer-Lemeshow test showed χ^2 (df=10, N=543) = 6.336, indicating a good model fit. The model explained 32 per cent variance in the likelihood of debt burden status. The Wald test identified seven groups significantly predicting likelihood of debt burden status, which fall under variables namely savings to income ratio (group: no savings and 1%-<10%), financial status (group: assets less than debt

and assets equals to debt) and income adequacy (group: not enough, enough for most things and enough for most things).

Thus, three salient factors predicting debt burden status were identified in this study, namely, savings to income ratio, financial status, and income adequacy. In general, civil servants who at least do savings are less likely to be burdened by debt problems. Specifically, those who save less as compared to those savings more (more than 20%) were negatively predicting debt burden. Furthermore, those who save between one to ten per cent from their income exhibit an even lesser odd (61.0% less likely) of debt burden as compared to those with no savings (74.2% less likely). Next, low financial status was revealed to be negatively related to debt burden status. Regardless civil servants possess assets less than or equal to debts, their odds of being burdened by debts were roughly equal. Subsequently, findings showed that when income is enough for most thing, the odds of civil servants falling into debt burden status is lesser (48.4% less likely) compared to civil servants who have not enough income (87.6% less likely) or income enough only for necessities (86.1% less likely). The effects of financial literacy and financial behaviour in predicting debt burden status were insignificant.

Table 3. Logistic regression predicting the likelihood of debt burden status of civil servants

Predictor variables	β	Wald Statistics	Sig.	Exp. (B)
Savings to income ratio				
0%	-1.355	5.080*	.024	.258
1%-<10%	-.942	6.14*	.013	.390
10%-<20%	-.398	1.042	.307	.672
Financial status				
Assets less than debt	-.845	8.603**	.003	.429
Assets equal to the debt	-.866	11.968**	.001	.421
Income Adequacy				
Not enough	-2.09	16.796**	.000	.124
Enough for the only basic necessity	-1.97	41.44**	.000	.139
Enough for most things	-.661	6.129*	.013	.516
Financial literacy	.040	.878	.349	1.041
Financial behaviour	-.001	.022	.881	.999
Constant	1.367	4.383	.036	3.923

Note: Significant levels; ** $p \leq 0.01$; * $p \leq 0.05$

Reference groups: Savings to income ratio = $\geq 20\%$; Financial status = Asset > debt; Income adequacy = Enough for most things and savings

4. Discussion

This study provides some insights into debt burden status within a sample of Malaysian civil servants. Firstly, saving to income ratio appears to be a significant factor in predicting debt burden status among Malaysian civil servants. In particular, it has been observed that civil servants who save between ten to twenty per cent of their income are less likely to fall into debt burden status compared to those who save at a lesser ratio. The result is aligned with a study by Cox, Hooker, Markwick, and Reilly (2009) and Kamakia, Mwangi, and Mwangi (2017) who found that individuals who have lower levels of savings will lead to higher debts, therefore, have a lower level of financial well-being.

Secondly, the results of this study revealed a negative effect of financial status on the likelihood of being debt-burdened. Although civil servants who have assets less than their debts appear to have lesser

odds of facing debt burdens, the odds do not differ much from those who have assets equal to debts. This counter-intuitive finding is contradicted to that of Sweet et al. (2013), who indicates that high financial debt relative to available assets is related to higher perceived stress. However, as asserted by Dew (2007), individuals voluntarily expanding their debt as a means to maximize their utility and to achieve individual psychological states. In such an instance, they may not perceive their debt as burdening, providing an explanation to the result that balancing assets and debts not necessarily better off for civil servants.

Thirdly, in line with the earlier expectation, income adequacy was a significant predictor of civil servants' likelihood to be debt-burdened. Results indicated that civil servants who have income that enough for most things are less likely to be debt-burdened compared to those who have not enough income or have income only enough for necessities. The finding is in line with resource deficit hypothesis (RDH), claiming that perceived income adequacy is compared to individuals' predetermined standard, and the gap between the twos determine financial satisfaction (Grable et al., 2013). Therefore, it is intuitive to put forward that civil servants would be less likely to strain for debts when their income can cover the majority of expenses.

Finally, it is surprising to observe that financial literacy and financial behaviour did not significantly predict debt burden status. The finding refutes previous results reported in the literature (Hogart & Hilgert, 2002). It is commonly believed that possessing an adequate level of financial literacy and executing sound financial behaviour would prevent related financial outcomes, such as overindebtedness (Anderloni & Vandone, 2011; Lusardi & Tufano, 2015). This unexpected result can probably explain by the fact that this study employed self-assessed debt burdens which may provide a different estimate of the current economic situation compared to objective evaluation. The main takeaway is that individuals may overestimate or underestimate their debt burdens regardless of the level of financial literacy and financial behaviour as perceived debt burdening may be more of approximation from memory retrieval and state of feelings.

This study provides several practical implications to civil servants as well as relevant authorities in Malaysia. Civil servants need to engage themselves in saving. Their chance of being debt-burdened may reduce if they can have more saving to income ratio. Next, although not much difference was identified between two financial statuses (assets less than debts and assets equal to debts), it is still advised civil servants to maintain a healthy balance between assets and debts. Lastly, civil servants should manage their income effectively, mainly focusing on fulfilling all necessities as the basis, and then only move to the pursuit of higher wants. This would reduce their chance of being burdened by excessive debts.

Although this study presented several noteworthy findings, it has several limitations to be addressed in future research. First, this study is cross-sectional, thereby limiting its ability to infer causation. Future research is suggested to conduct a longitudinal study in examining the effects of predictors proposed in this study. Second, this study employed a subjective measurement of debt burden status. Although being valid, future research can complement this study by using an objective measurement to provide a comparison between the two. Such an approach presents a fruitful research direction. Lastly, future research should consider psychological variables as these variables may associate closely to a person' judgment of feeling, particularly towards a feeling of a debt burden.

5. Conclusion

The current study offered a preliminary view of the potential factors influencing Malaysian civil servants' likelihood of being burdened by debts. The results exhibited that socioeconomic conditions

(income adequacy, financial status, and savings to income ratio) as the significant factors but not financial literacy and financial behaviour. Thus, it shows that for the Malaysian civil servants facing issues on income adequacies, financial status, and saving to income ratios will feel the debt burden. This provides a piece of essential information to financial practitioners, as well as civil servants on the underlying factors for their despair. It is imperative that policymakers, and the civil servant to carefully manage these factors to avoid undesirable consequences of excessive debt burdens. As such, understanding an individual's financial problem could help in reducing the debt burden in the future. Current outstanding debts incurred from Malaysian civil servants may pose a certain extent of financial stability risks in general, but the broader socio-economic implications are of more concern and waiting to be resolved without any further delay.

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