

HOUSEHOLD DEBT AND PRIVATE CONSUMPTION IN MALAYSIA

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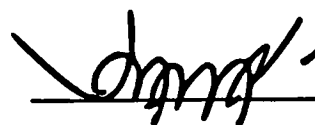
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ABSTRACT

Previous studies on the relationship between household debt and private consumption have produced mixed results. Despite the intense debate about the effects of household debt on private consumption, no studies have explicitly taken the disaggregate level of household debt into consideration. Therefore, this study aims to extend the relationship between household debt and private consumption beyond the standard investigation on by taking a more meticulous view of the effect of property and consumer debt in Malaysia. This study employed several time series econometric approaches and utilized quarterly data for Malaysia from 1997 to 2016. The Augmented Dickey Fuller test was used in this study to test the stationarity of the variables and found all the variables were stationary in first difference. Therefore, it then proceeds to the Johansen cointegration test. The cointegration test result shows the existence of three cointegrations for both the Trace test and the Maximum Eigenvalue test whereby there are long run relationships among the variables. Furthermore, the granger causality results show there is bilateral relationship between consumer debt and private consumption while property debt has no impact on private consumption. Although the cointegration test has shown that there are cointegration relationships between the variables, it does not present the dynamic interactions between the variables. Hence, this study involved variance decomposition and impulse response analyses to examine the effects of household debt on private consumption. The findings of variance decomposition and impulse response reveal that that there is a negative relationship between consumer debt and private consumption. More importantly, it shows that consumer debt is the major cause for private consumption while property debt shows no significant effect on private consumption. Contemporaneously, this study also contributes to the literature by assessing the role of household debt in the changes of aggregate private consumption by using the factor decomposition analysis method. Although higher household debts have threatened Malaysian economic growth, the results reveal that household debt plays an important role in the changes of aggregate private consumption.

Keywords: Property debt, Consumer debt, Private consumption

ABSTRAK

HUTANG ISI RUMAH DAN PENGGUNAAN SWASTA DI MALAYSIA

Kajian terdahulu mengenai hubungan antara hutang isi rumah dan penggunaan swasta telah menghasilkan penemuan yang berbeza. Walaupun terdapat perdebatan sengit mengenai kesan hutang isi rumah terhadap penggunaan swasta, tetapi tiada kajian telah secara jelas mengambil kira tahap hutang rumah tangga yang tidak agregat. Oleh itu, kajian ini bertujuan untuk mengkaji semula hubungan antara hutang isi rumah dan penggunaan swasta dengan mengambil kira pandangan lebih terperinci tentang kesan hutang hartanah dan pengguna di Malaysia. Kajian ini menggunakan pendekatan ekonometrik siri masa dan data suku tahunan bagi Malaysia dari tahun 1997 hingga 2016. Ujian Augmented Dickey Fuller telah digunakan dalam kajian ini untuk menguji stationarity dari pembolehubah dan mendapati semua pembolehubah menjadi stationary pada perbezaan pertama. Hasil ujian kointegrasi menunjukkan kewujudan tiga kointegrasi untuk kedua-dua ujian Trace dan ujian Maksimum Eigenvalue di mana terdapat hubungan jangka panjang antara pembolehubah. Selain itu, hasil ujian causality menunjukkan hubungan dua hala antara hutang pengguna dan penggunaan swasta manakala hutang harta tanah tidak memberi kesan kepada penggunaan swasta. Walaupun ujian kointegrasi telah menunjukkan hubungan kointegrasi antara pembolehubah, namun ia tidak menunjukkan interaksi dinamik antara pembolehubah. Oleh itu, kajian ini melibatkan penguraian varians dan analisis tindak balas impuls untuk mengkaji kesan dinamik hutang isi rumah terhadap penggunaan swasta. Penemuan penguraian varians dan tindak balas impuls menunjukkan hubungan negatif antara hutang pengguna dan penggunaan swasta. Lebih penting lagi, ia menunjukkan bahawa hutang pengguna adalah penentu utama penggunaan swasta manakala hutang harta tanah tidak memberi kesan yang signifikan terhadap penggunaan swasta. Secara kontemporari, kajian ini juga memberi sumbangan kepada literasi dengan menilai peranan hutang isi rumah dalam perubahan agregat penggunaan swasta dengan menggunakan kaedah analisis penguraian faktor. Walaupun hutang isi rumah yang lebih tinggi telah mengancam pertumbuhan ekonomi Malaysia, keputusan kajian ini mendedahkan bahawa hutang isi rumah memainkan peranan penting terhadap perubahan penggunaan swasta agregat.

Kata Kunci: Hutang hartanah, Hutang pengguna, Penggunaan swasta

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LIST OF ABBREVIATIONS

ADF	-	Augmented Dickey Fuller
AIC	-	Akaike Info Criterion
BNM	-	Bank Negara Malaysia
DIBS	-	Developer Interest Bearing Scheme
ECT	-	Error Correction Term
OLS	-	Ordinary Least Square
FOF	-	Flow of Fund
GDP	-	Gross Domestic Product
GST	-	Goods and Services Tax
IFS	-	International Financial Statistic
IV	-	Instrumental Variables
LTV	-	Loan to Value
MITR	-	Mortgage Interest Tax Relief
MPC	-	Marginal Propensity to Consume
MSB	-	Monthly Statistical Bulletin
NPA	-	National Income and Product Account
NSFIE	-	National Survey of Family Income and Expenditure
OECD	-	Organisation for Economic Co-operation and Development
OLS	-	Ordinary Least Square
PSID	-	Panel Study of Income Dynamics
RPGT	-	Real Property Gain Tax
SCF	-	Survey of Consumer Finance
UK	-	United Kingdom
US	-	United States
USD	-	United States Dollar
VAR	-	Vector Auto Regression
VECM	-	Vector Error Correction Model

CHAPTER 1

INTRODUCTION

1.1 Background of Study

In recent years, it has seen a steep rise of household debt in Malaysia which has resulted in high household debt service ratio. This warrants attention as Malaysia's household debt to gross domestic product (GDP) ratio had reached 88.5 percent of the GDP in 2016 (Financial Report and Payments System 2016, 2017). Figure 1.1 shows the household debt to GDP ratio in Malaysia from 2002 to 2016. The risk posed by the soaring household debt is that it may threaten future household consumption as they are facing the burden of paying off their debts. In the past decades, the United States (US) had experienced the Great Depression which was caused by the collapse of household consumption expenditure in 1930 (Olney, 1999). Moreover, Mian & Sufi (2010) stated that US households reduced their consumption expenditure after they faced the huge increase in household debt. After all, the higher the debt of a household, the larger the proportion of the disposable income is used to pay off the debt, it then reveals intertemporal trade-offs by households to smooth their consumption as time goes on. Meanwhile, private consumption defined as total spending by resident household domestically and abroad on goods and services (Dhruva Murugasu, Chang & Tng, 2015). According to Central Bank of Malaysia, the major indicators of private consumption in Malaysia include credit card expenditure, sales of passengers' vehicles as well as imports of consumption goods (Bank Negara Malaysia, 2010). If the increase in household debt is not associated with the increase in household income, it will cause uncertainty to the economy as well as trigger undefined default rates.



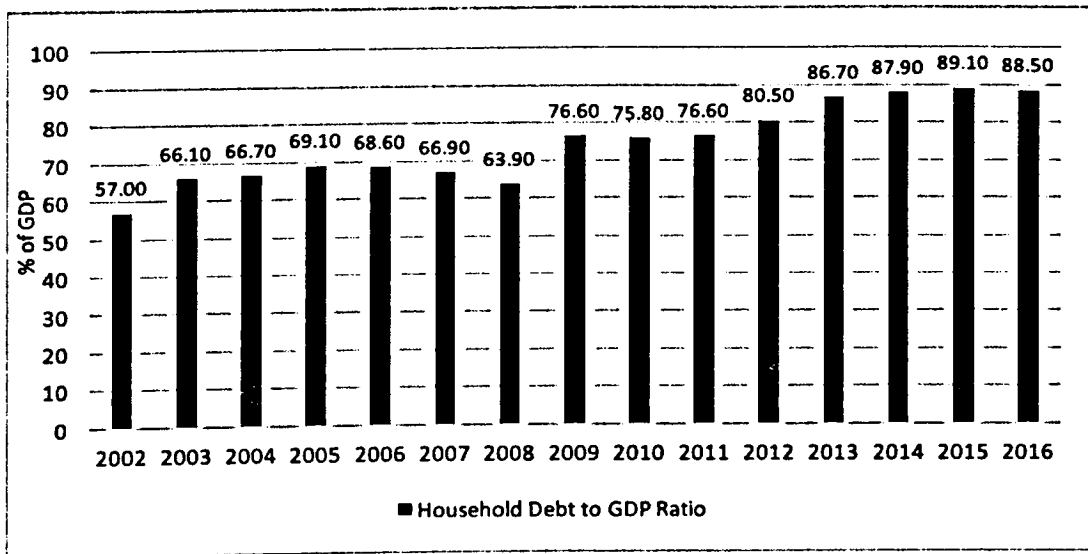


Figure 1.1: Household Debt to GDP Ratio from 2002 to 2016

Source : Bank Negara Malaysia

1.2 Overview of Household Debt and Private Consumption in Malaysia

According to Life Cycle framework of Modigliani (1986), household consumption is based on its expected lifetime resources while debt is one of the resources other than current income (Dyner, 2012). Before the 1997 Asian Financial Crisis, Malaysia's household debt to GDP ratio was relatively low compared to the current ratio. Household debt accounted for 43 percent of the total GDP in 1997, however, the percentage had doubled up to 88.5 percent in 2016. According to Bank Negara Malaysia (2014), Malaysia's household debt is the composite of loans for properties (including residential and non-residential properties), loans for personal use, credit card loans, loans for durable goods, motor vehicles loans and loans for securities as presented in Figure 1.2. These components of household debt explain clearly that households are borrowing for their desired consumption. Hence, the market of household financing has enlarged from 2000 onwards and it rose from 34.4 percent of total outstanding bank loan to 56.8 percent in the end of 2015 as shown in Figure 1.3. This was due to the increase of liquidity of financial institutions which have encouraged households to search for credit. Furthermore, the government policy of encouraging home ownership and the enhancement of property market are other motives for households to borrow which justified that loans for properties accounted more than 50 percent of total debts. This increasing trend of outstanding household loan is consistent with the rising of household debt to GDP ratio.

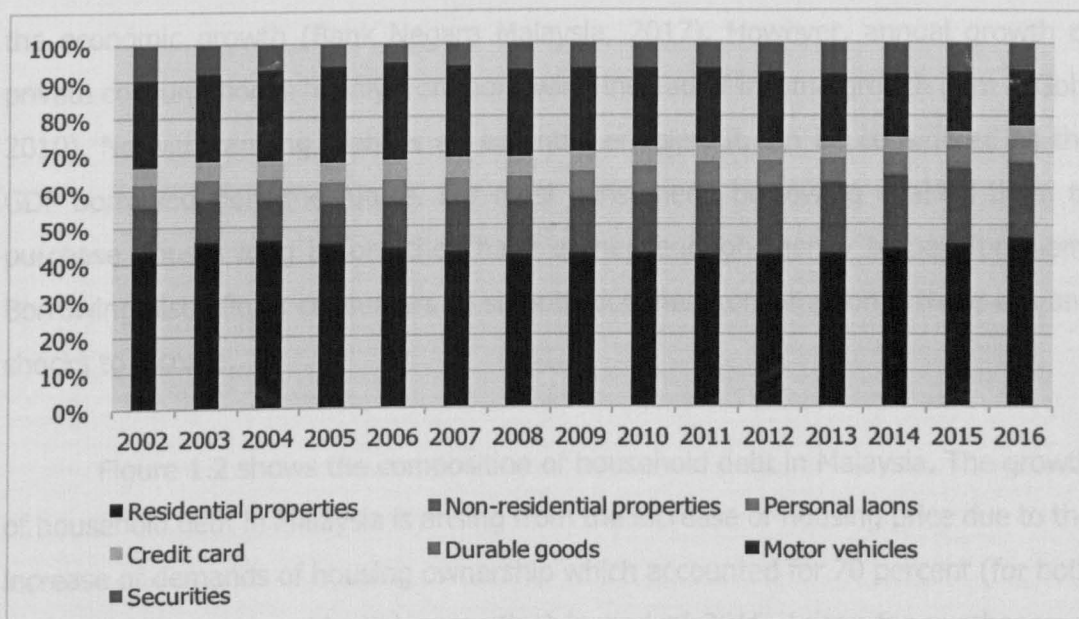


Figure 1.2: Composition of Household Debt

Source : Bank Negara Malaysia

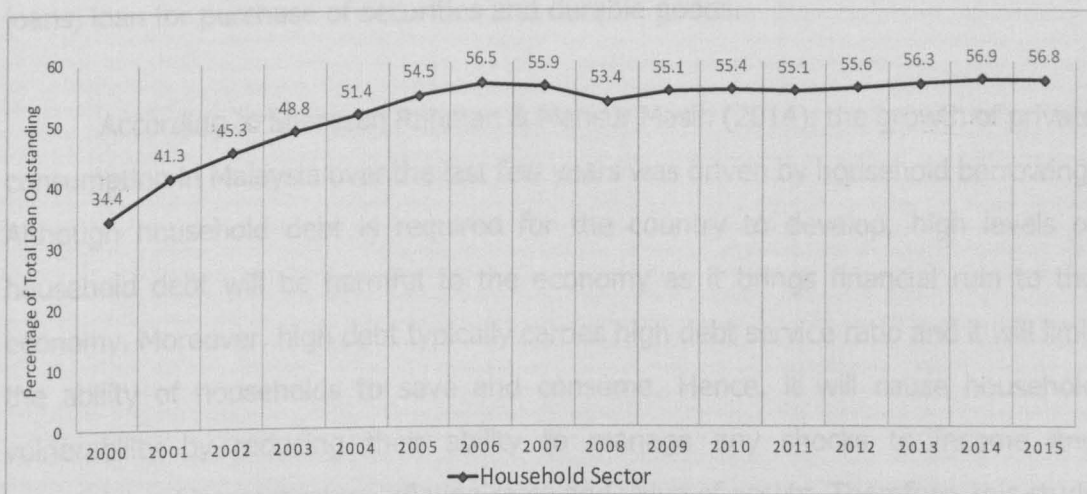


Figure 1.3: Household Loans as a Percentage of Total Loans from 2000 to 2015

Source : Bank Negara Malaysia

Private consumption which is also known as household consumption includes all purchases of goods and services as well as durable goods. It is also a contribution to the GDP of a country including Malaysia. If private consumption collapses, the economy of Malaysia will certainly be affected as it contributed about 55.5 percent to the GDP of Malaysia in the end of 2018 (Bank Negara Malaysia, 2018). Therefore, private consumption plays an important role in driving Malaysian economic growth in the face of weak external demands which necessitated domestic demands to drive

the economic growth (Bank Negara Malaysia, 2017). However, annual growth of private consumption is mainly from borrowing instead of income growth (Lim & Goh, 2010). Notwithstanding, debt is an essential enabler. It can be considered as the GDP borrowed from the future. For most consumers, borrowing enables them to purchase houses long before they have earned enough money to pay for them. Borrowing also allows consumers to smooth out their consumption if there are any shocks to income.

Figure 1.2 shows the composition of household debt in Malaysia. The growth of household debt in Malaysia is arising from the increase of housing price due to the increase of demands of housing ownership which accounted for 70 percent (for both residential and non-residential properties) in end of 2016. Loans for purchases of motor vehicles constitute the second largest component of household debt. Besides that, the composition of household debt also includes credit card loans, personal loans, loan for purchase of securities and durable goods.

According to Sharezan Rahman & Mansur Masih (2014), the growth of private consumption in Malaysia over the last few years was driven by household borrowing. Although household debt is required for the country to develop, high levels of household debt will be harmful to the economy as it brings financial ruin to the economy. Moreover, high debt typically carries high debt service ratio and it will limit the ability of households to save and consume. Hence, it will cause household vulnerability by reducing their ability to manage any shocks to income and uncertainty of interest rates, inflation rates and value of assets. Therefore, this study examines the effects of household debt on private consumption in Malaysia by segregating household debt into property debt and consumer debt.

1.3 Disaggregate of Malaysia Household Debt

Household debt is the total amount of money owing by individuals to the financial institutions. According to the components of household debt in Malaysia, it clearly defines that loans for residential properties and non-residential properties constitute a large portion of the aggregated household loans. Whereas, loan for personal use, credit card loan, loan for durable goods, loan for motor vehicles and securities loan

can be grouped as consumer debt, while loans to residential properties and non-residential properties are categorized as the property debt.

Figure 1.4 shows that property debt as a share of GDP was constantly higher than consumer debt. In the view of disaggregated level, property debt had expanded about 20 percentage points from 2002 to 2016. In contrast, consumer debt was decreasing from 2013 onwards. Therefore, this study examines the effects of household debt on private consumption in Malaysia by classifying household debt into property debt and consumer debt. Additionally, property debt and consumer debt may have different impacts on private consumption in Malaysia.

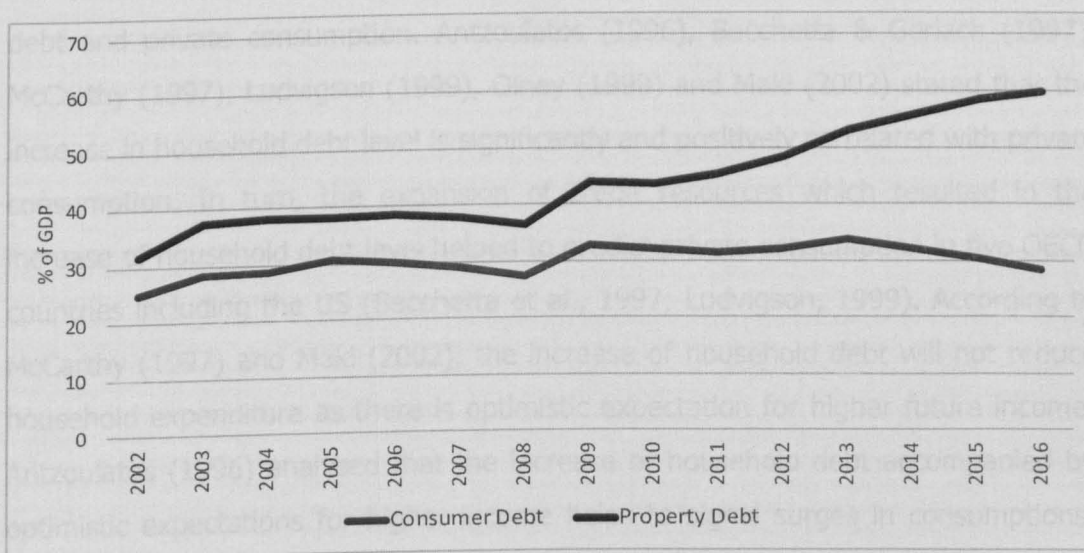


Figure 1.4: Property Debt and Consumer Debt as a Share of GDP from 2002 to 2016

Source : Bank Negara Malaysia

1.4 Problem Statement

The drastic increase of household debt in Malaysia since 2008 has brought the question on the sustainability of sources of private consumption, as it may trigger another financial crisis. Therefore, this study is aimed to examine the effects of household debt on private consumption in Malaysia. Although the linkage between household debt and private consumption is being debated in the literature, empirical studies indicate inconclusive results.

The starting point for the examination of the relationship between household debt and consumption is the life-cycle hypothesis and the permanent income hypothesis constructed by Friedman (1957) and Modigliani (1986) respectively. Their findings explained that households maximise utility by smoothing the path of consumption over the life cycle. Households will look for alternative resources when their income is relatively lower than the average income over the lifetime and they will repaid in future when their income becomes relatively higher than the average lifetime income. Households increase their debt to smooth consumption from the theoretical perspective.

There are two different points of views on the relationship between household debt and private consumption. Antzoulatos (1996), Bacchetta & Gerlach (1997), McCarthy (1997), Ludvigson (1999), Olney (1999) and Maki (2002) stated that the increase in household debt level is significantly and positively correlated with private consumption. In turn, the expansion of credit resources which resulted in the increase of household debt level helped to predict private consumption in five OECD countries including the US (Bacchetta et al., 1997; Ludvigson, 1999). According to McCarthy (1997) and Maki (2002), the increase of household debt will not reduce household expenditure as there is optimistic expectation for higher future income. Antzoulatos (1996) analysed that the increase of household debt accompanied by optimistic expectations for higher income helps to signal surges in consumptions. Moreover, Cynamon & Fazzari (2008) studied the macroeconomic implications of consumption booms in US by using Hyman Minsky's financial instability theory and it was found that the consumption booms in the US are accompanied by significant increase of household debt levels.

The opposite point of view that high debt burden had caused households to reduce their consumption expenditure was emphasized by Mishkin (1976), Ogawa & Wan (2007), Cooper (2012), Dynan (2012) and Albuquerque & Krustev (2015). They found the negative relationship between household debt and consumption. Highly indebted households tend to reduce their consumption expenditure due to growing unemployment rate (Dynan, 2012; Dynan & Edelberg, 2013; Mian, Rao & Sufi, 2013). Ogawa & Wan (2007) found that households with high debt have significant negative effect on their consumption expenditure of semi-durable goods and non-durable

goods while Mishkin (1976) highlighted that the increase of debt held by households has caused them to ease their consumption expenditure on durable goods. Although the data did not demonstrate much that debt affects household consumption, Cooper (2012) suggested that a negative relationship was found between debt and consumption. Furthermore, sample periods during the Great Recession and the early stage of recovery were used to test the amount of consumption with the rise of US household debt. Based on these hypotheses, Albuquerque & Krustev (2015) concluded that excessive of household debts have negative effect on demands and consumption expenditure.

Furthermore, Olney (1999) examined the role of credit in the consumption collapse in 1930 for the sample period from 1919 to 1941. She opined that instalment debt had a negative effect on the consumption of non-durables goods from 1919 to 1932, but it had a positive effect from 1938 to 1941. Olney found that households who were highly indebted in 1930 could have triggered the consumption collapse in 1930 given the harsh penalties for the default of debt.

Based on the above discussion, the linkage of household debt and private consumption have been investigated by most of the studies conducted in the US and Europe. However, there are very limited literature studies conducted in Malaysia. According to a recent research conducted by Hafizah Hammad Ahmad Khan, Hussin Abdullah & Shamzaeffa Samsudin (2016b), an increase in private consumption is associated with the rise of household debt but they also suggested that there is risk of households of not being able to respond towards shocks to income. They found that there is a unidirectional causality run from private consumption to consumer debt, however, a further investigation is required to be conducted to measure the response of variables towards the shocks from itself or another endogenous variable. Thus, this study closes the gap by using variance decomposition and impulse response approaches to address the dynamic interactions and examine the reaction of private consumption in response to the shock in variables respectively. In addition, this study investigates further by using factor decomposition analysis to define the driving factors of change of private consumption during previous periods.

Furthermore, the relationships between household debt and private consumption have been debated over the years. However, previous studies showed a complex relationship among them while the assessment of the relative importance of the role of household debt in private consumption was not examined in the empirical studies. Therefore, this study utilized factor decomposition analysis to define the importance of the role of property debt and consumer debt to the trend of private consumption in Malaysia throughout the period from 1997 to 2016.

1.5 Research Questions

In this study, three research questions were formulated, namely:

- i. What is the effect of household debt on private consumption in Malaysia by examining the effect of property debt and consumer debt?
- ii. Is there causality between household debt, private consumptions, GDP, interest rate and consumer price index in Malaysia?
- iii. Are the contributions of property debt and consumer debt to the change of private consumption in Malaysia important?

1.6 Research Objectives

The objectives of this study are as follows:

- i. To examine the impact of household debt on private consumption in Malaysia.
- ii. To explore the causal relationship between property debt, consumer debt, private consumption, GDP, interest rate and consumer price index in Malaysia.
- iii. To assess the relative importance of property debt and consumer debt to private consumption in Malaysia over the sample period.

1.7 Significance of Study

The high level of household debt in Malaysia can be a threat to the economic and financial stability if the debt reaches an unsustainable level (Selamah Abdullah Yusof, Rohaiza Abd Rokis & Wan Jamaliah Wan Jusoh, 2015; Hafizah Hammad Ahmad Khan, Hussin Abdullah & Shamzaeffa Samsudin, 2016a). Most of the empirical studies on the linkage of household debt and private consumption were conducted using data from US, United Kingdom (UK) and Europe whereas this study uses the sample data from Malaysia. Therefore, the findings of this study will enlarge the knowledge between academic researchers and students by filling the gap in the area of research. Besides, this study will provide a new perception to the policy makers on the impact of composition of household debt on private consumption as different groups of debt may have different impacts on private consumption in Malaysia. In addition, this study employed factor decomposition analysis to analyse the key factors of the fluctuations of private consumption trend in Malaysia during the historical periods (1997-2016). It allows the policy makers to look into the importance of the role of household debt to private consumption during the years from 1997 to 2016. Besides that, the empirical studies conducted to examine the relationship between household debt and private consumption were found to have mixed results. Hence, it is important to examine the relationship between household debt and private consumption in Malaysia using the different components of household debt rather than the aggregated level. The results of this study will provide a new perspective to the economic literature as well as the impact on society considering that the increase of household debt is partly due to the behaviour of households on consumption.

1.8 Organization of this Study

This thesis consists of five chapters, whereby:

Chapter one describes the background of household debt in Malaysia, the problem statement, questions and objectives of the research as well as the organization of the study.

Chapter two describes the theoretical aspects of household debt and consumption as well as the empirical studies including the benign views of household

debt and consumption, alarmist views of household debt and consumption, as well as mixed empirical evidence between wealth and household expenditure.

Chapter three discusses the consumption function, the data and its sources, econometric method and estimation method.

The empirical discussion and results of the analysis of data are reported in this chapter.

Summary, discussion and findings, implications of the study, recommendations for future research and conclusion are presented in chapter five.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will discuss literature reviews on the theoretical aspects of household debt and consumption, the empirical studies on household debt and consumption as well as mixed evidence between household debt and consumption.

2.2 Theoretical Aspect of Household Debt and Consumption

There are 4 major theories explaining the relationship between household debt and consumption, namely:

- Modigliani (1986), Life-cycle hypothesis
- Friedman (1957), Permanent Income hypothesis
- Deaton (1991), Buffer Stock hypothesis
- Minsky (1992), Financial Instability hypothesis

The life-cycle theory of Modigliani (1986) is the traditional economic theory of consumption. This theory has been widely used in many empirical literatures for many years. The life-cycle hypothesis suggested that individuals will opt for large amounts of debt to smooth their consumption in order to acquire durable goods. The assumption of this model is that a household is allowed to maximise utility over its life-time subject to an intertemporal budget constraint. Moreover, the life-cycle model predicts that consumption in each period is reliant on the household current income. Hence, when household income is relatively lower than the average income over the life-time, households will borrow to finance their current consumption and they will repay when their income becomes relatively higher than the average life-time income.



The permanent income hypothesis of Friedman (1957) is another consumption theory which justifies that consumer behaviour is more or less contemporaneously with Modigliani's life-cycle hypothesis. The difference between the life-cycle hypothesis and the permanent income hypothesis is the lifespan of the household. The life-cycle hypothesis assumes that the household has a limited lifetime due to maturation and retirement while the permanent income hypothesis assumes that the household has an infinite lifetime. Therefore, the Friedman's theory claims that household consumption should not focus on current income but on the lifetime income which includes current and permanent income. It is assumed that households will use their expected lifetime income for consumption rather than the income they are receiving currently.

As the permanent income hypothesis of Friedman is broadly applied as the theory of the consumption functions, Hall (1978) established an alternative version of the permanent income hypothesis by including lagged consumption growth and rational expectation. He suggested that households should not depend solely on permanent income but will utilize both permanent income and "rule-of-thumb" current income. This theory is known as the rational expectation permanent income hypothesis.

Additionally, Deaton (1991) developed a "buffer stock" version of the permanent income hypothesis which predicts a strong relationship between consumption and expected future income where households will increase their savings when they foresee a negative impact on their future income. According to Ludvigson (1999), she found that households will incur debt in order to finance their consumption when there are short term uncertainties on their income by using this model to analyse the impact of fixed borrowing limits on households.

Furthermore, according to Minsky (1992), the financial instability hypothesis was developed mainly for corporate debt. However, several researchers such as Palley (1994) and Cynamon & Fazzari (2008) applied Minsky's financial instability hypothesis to examine the impact of household debt accumulation on consumption. Palley (1994) used quarterly data from Citibase and a simple linear multiplier-accelerator model to explain the correlation between household debt and

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