The Impact of Macroeconomic Variables on Household Debt in Malaysia

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Abstract: The purpose of this study is to identify the main factor or determinant that may influence the trend of household debt in Malaysia and the significant correlations between economic determinants and household debt. In this study, the researchers only use (4) variables that expected to have an effect to the Malaysian household debt which are employment rate, consumer price index, base lending rate and Malaysia income per capita. The researcher found that all explanatory variables that used in this study consistent with economic variable which employment rate and income per capita has positively relationship towards affecting household debt. However, inflation rate (measured by CPI) and interest rate (measured by BLR) have a negatively relationship in affecting household debt in Malaysia. Interest rate (BLR) is the most variable that has strong significant impact towards changes in trend of household debt in Malaysia. The researcher also found that the increase trend of debt by household in Malaysia will affect the Malaysia economic growth in future and government planning towards achieving ETP.

Key words: Household debt • Disposable income • Economic Transformation Program • Malaysia

INTRODUCTION

Household debt refers to the total outstanding household or loans taken from the banking system, development financial institutions, the government under the treasury housing loans scheme for public sector employees and insurance companies. Prior to the 1997 Asian financial crisis, the share of household debt in total outstanding bank loans was relatively small compared to the share of loans extended to businesses. The level of household debt has been rising over the years at the rate of 11.1 per cent annually from 2004 to 2009 reported by CIMB Research (2011).

Malaysia's household debt continues to mount against a backdrop of changing economic variables. From a low of 16% of banking sector loans in 1998, household loans in the Malaysian banking sector have gradually climbed to currently stand at 55% of loans. The shift was also enabled by progressive increases in household income, changing demographic profiles, increased acceptance of consumerism and greater consumer willingness to borrow, which the banks have been happy to cater to.

Various studies explained about macroeconomic implications on rising household debt, which can be viewed as a rational response by households to the effects of easing liquidity constraints on households and lower inflation and borrowing rates. Lower inflation rate and borrowing rate will encourage household to make a loan and it will lead to increase in household consumption and spending. Household more interested to spend their money to pay goods that have a lower price in the situation of lower inflation rate. But when their need and wants is exceeding what actually they have, they make a loan in order to fulfill their needs and that directly contribute to the rise in household debt.

Problem Statement: Since the Asian financial crisis that happens in year 1997, banking institutions has been reducing their exposure to businesses and the greater focus on household financing. Banking institutions are
shifting their focus to the household sector as part of their business diversification strategy. The household segment accounted for one third of the banking sector’s total loan exposure before the crisis but it become crucial because household debt now accounts for more than half. This was necessary given the significant direct and indirect spill over effects of problems associated with excessive indebtedness to economic and financial system stability as well as social implications. So, reduction in disposable income and household consumption will interrupt the Malaysia government planning to expand Malaysian economy and comprehensive effort to achieve high income nation status will fail. In the situation of rise in household debt, household sector will be more sensitive to shocks to interest rates and household incomes. It means the household have a highly probability to make a loan or borrowing if the income that they earning is low or not enough to fulfill their spending.

**Research Methodology and Design:** To test the relationship between household debt and its different explanatory variable, the following models is used:

\[
\log(\text{HD}) = \alpha + \beta_1 \log(\text{EMP}) - \beta_2 \log(\text{CPI}) - \beta_3 \log(\text{BLR}) + \beta_4 \log(\text{IPC}) + \epsilon
\]

Where:

HD: Malaysian household debt
EMP: Employment rate
CPI: Consumer Price Index
BLR: Base Lending Rate
IPC: Income per capita
\(\epsilon\): Error term

**Unit Root Test Result:** The results showed that the t-statistics for all variables are statistically insignificant to reject the null hypothesis of non-stationary at any significance level. It indicates that these series are non-stationary at level. It also can conclude that these variables contain unit root. Besides that, only variable EMP significant at 1% level of significance, variable CPI and IPC are significant at 5% level of significance in the first (1\(^{st}\)) difference. However, at second difference, the null hypothesis of non-stationary is rejected at 1% significance level for variable EMP, CPI and IPC and variable HD and BLR are rejected at 5% significance level. Therefore, it can conclude that all the series are integrated of order two, \(I(2)\).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Order of Integration</th>
<th>Critical Value</th>
<th>Test Statistics</th>
<th>Lags</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOG(EMP)</td>
<td>Level</td>
<td>-3.64496</td>
<td>-3.73975*</td>
<td>1</td>
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<tr>
<td></td>
<td>1(^{st}) Difference</td>
<td>-3.65845</td>
<td>-3.48205</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2(^{nd}) Difference</td>
<td>-3.67362</td>
<td>-4.28945**</td>
<td>1</td>
</tr>
<tr>
<td>LOG(CPI)</td>
<td>Level</td>
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<td>1</td>
</tr>
<tr>
<td></td>
<td>1(^{st}) Difference</td>
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<td>-6.58481*</td>
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</tr>
<tr>
<td>LOG(BLR)</td>
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<td>-0.93442</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1(^{st}) Difference</td>
<td>-3.65845</td>
<td>3.91212**</td>
<td>1</td>
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<tr>
<td></td>
<td>2(^{nd}) Difference</td>
<td>-3.67362</td>
<td>-5.23007*</td>
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<tr>
<td>LOG(IPC)</td>
<td>Level</td>
<td>-3.64496</td>
<td>-9.3442</td>
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<tr>
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<td>1(^{st}) Difference</td>
<td>-3.65845</td>
<td>-5.69932*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2(^{nd}) Difference</td>
<td>-3.67362</td>
<td>-7.00953*</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: * indicates the rejection of the null hypothesis of non-stationary at 1% and 5% significance level.

Table 2 shows the correlation coefficient result which shows that base lending rate has a strongest relationship towards affecting household debt in Malaysia and this variable contributes the most to the household debt followed by income per capita, consumer price index and employment rate. This finding achieves the objective in this study. The finding shows that it has a significant F-statistics. It means that all the explanatory variables in the study have a contribution in the household debt in Malaysia. So, it can conclude that the model used in this study is appears to be useful in predicting the household debt in Malaysia. The factors that determine the household debt is different from every region and country. Difference economic conditions in each country will give a different result for all research that has been made in other country.

<table>
<thead>
<tr>
<th>Table 2: Correlation Matrix</th>
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<tr>
<td></td>
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<tr>
<td>LOG(HD)</td>
</tr>
<tr>
<td>LOG(EMP)</td>
</tr>
<tr>
<td>LOG(CPI)</td>
</tr>
<tr>
<td>LOG(BLR)</td>
</tr>
<tr>
<td>LOG(IPC)</td>
</tr>
</tbody>
</table>

The study found that the coefficient of determination (R-squared) is 0.97909. It indicates that 97.91% of the changes in the Malaysian household debt can be explained by the variation in all explanatory variables (employment rate, consumer price index, base lending rate and income per capita). It means that, the results of coefficient of determination (R\(^2\)) have the high explanatory power in explaining changes in household debt in Malaysia.
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Based on the regression result, it shows positive relationship between household debt and employment rate. As employment rate increases by 1%, household debt will increase by 1.2332% This is consistent with the study done by Meng et al. (2011) who found that unemployment rate have negative effect on household debt. It means there is positive relationship between employment rate and household debt. Household with jobs will encourage borrowing because of the ability to repay the loan and households who are employed also will decrease the possibility of financial constraints. In addition, these two factors actually will cause increase in the household demand for financing and enhancing the growth of household debt.

The result also shows positive relationship between household debt and per capita income. Steady economic growth, stability in unemployment rate and low interest rate regime in Malaysia will increase the country’s income per capita and that situation directly encourage more borrowing by household. Consumer price index and base lending rate are also consistent and match with economic theory where there show negative relationship between household debt and both of these variables. The result found that the household debt will decrease by 0.5666% if consumer price index increases by 1%. The significant negative effect of CPI indicates that the supply side dominates (Meng et al., 2011). Fewer funds are lent when country facing with high of inflation and that situation will decrease household debt. Debelle (2004) also suggest that the low inflation could be a reason for rising household debt because it may decrease the financial constraints on households and encourage lending. Lower inflation leads to lower interest rates and it means less income is needed for the reduced scheduled payment.

Household debt also will falls by 0.735814% if base lending rate in Malaysia increase by 1%. The negatively relationship between interest rate towards affecting household debt also support by Barrell. R. et al. (n d). Barrell. R. et al. estimate the long term relationship between household debt and determinants of its sustainable growth. Interest rates become one of the important determinants that they studied in their study. They found that an increase in interest rate is would result in falls in household debt ratios as part of the convergence process. They stated that when country has lower interest rates, it will promote credit to the private and household sector to enhance the investment and spending, implying a negative relationship between the interest rate and debt. Philbrick and Gustafsson (2010) in their study also stated that there has negative relationship between household debt and interest rate. They stated that interest rates are significant implies that it has an effect on the debt.

CONCLUSION

The empirical results reveal that rapidly rising Malaysian household debt is the result of a favourable macroeconomic environment. All objectives in this study achieved. Base lending rate (BLR) is the most variable that has a strong significant in affecting household debt in Malaysia. Lower cost of borrowing due to decreasing in Interest rate and inflation rate might cause household demand more on loan. As result, the trend in Malaysian household debt will keeps on rising and eventually will paralyzed government planning to achieve successful in ETP.

Recommendations: As shown in findings result, its shows that growth in Malaysia economy also can be affected by household debt in future if there is no effective action taken by government now. Since interest rate has a significant impact towards affecting Malaysian household debt, government and Bank Negara of Malaysia (BNM) should make sure the fluctuation of interest rate not burden household in future and ETP. As show in findings, lower interest will provide lower in the
cost of borrowing. This situation directly will enhance and
courage more borrowing by household sector. So
government and BNM should take a correct measurement in
order to make sure the risk in debt is manageable and
controllable. Government should encourage and advising
household to enhance their saving rate and financial
assets in order to make sure Malaysian household more
flexible to changes in the economic environment.
According to Ricardian theory of saving and investment
in explaining the condition of loanable funds theory, he
stated that even though country facing with increasing
trend in borrowing made by citizen, but high saving rate
in the country will help to make the risk of debt remain
stable. So, it shows that household should be focus to
enhance their saving and also financial asset in order to
make sure sustainable in Malaysia economy. Government
needs to clearly inform the household in Malaysia about
the consequences of rising in Malaysian household debt
trends towards the country’s economy expansion in
achieving successful ETP planning. Government should
provide adequate exposure to household about the
adverse impact of rising household debt towards
expansion in Malaysia’s economy. As a result in findings,
it shows that increase in debt by household in future will
be give negative impact towards country economic
growth. So, the information that they get will help them to
be more aware and realize about real situation of
household debt trend in Malaysia.

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