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Consumer Behaviour And Financing Pattern Of Malaysia Through  
The Economic Cycles: 1997 To 2005

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**Abstract**

This study will help to shed light on consumer spending and financing in Malaysia. The descriptive and quantitative analyses focuses on how Malaysian consumer spending and financing patterns may change through the economic cycles from 1997 to 2005 and establishes the relationships that will be helpful in predicting the result of the financial and economic shocks. The patterns of residential property loans and various types of consumer credit were examined in relation to the performance of the economy as measured by real GDP. Observations were also made on the trend of purchases on credit basis. The finding shows that there is direct correlation and positive growth for consumer credits throughout the economic cycles. However for residential property it is inversely correlated. In both categories, during an economic downturn there will be contractions in the outstanding loans but it is still viable to extend credit to selected portfolio.

*JEL classifications:* D03, D14

*Keywords:* Consumer Behaviours, Financing Patterns, Residential Property Loans, Consumer Credit, Consumer purchases on Credit

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## **1. INTRODUCTION**

Private consumption is one of the major components that make up the demand-side of an economy. In national accounting, it is referred to as the expenditure approach to computing the size of an economy. Private consumption is defined here as the sum of purchases of goods and services by consumers or households and current expenditure of firms. Economists use this term more broadly to cover the aggregate of all economic activities that does not entail consumption and investment by the government and fixed investment by the corporate sector.

In advanced economies, private consumption and more specifically, consumer spending, makes up more than 70% of Gross Domestic Product (GDP). The GDP is the most widely used indicator of economic performance as measured by the total expenditure or its equivalent, the total value of goods and services produced in the country.

Given the importance of private consumption in determining the performance of an economy, it is important for policy makers, planners, analysts and the business community to better understand the role of financing in supporting consumer spending.

The importance of consumer financing is underlined by the current global financial crisis triggered by the US sub-prime mortgage meltdown and the consequent effects or credit crunch on consumer spending.

### **1.1 Motivation of Study**

Consumer spending is an important final demand aggregate in the Malaysian economy, and together with business spending, makes up about half the country's Gross Domestic Product (GDP). Understanding consumer behavior and financing patterns, particularly during financial crisis periods, is important to banking institutions as well as the

government in designing appropriate policy and strategy responses to financial and economic crises originating from within or outside the country.

Based on the BNM reports, residential property loans and consumer credit were adversely affected during the 1997-98 financial crisis. These two sectors are very vulnerable to the economic cycles. In 1997 they respectively form 12.3% and 13.6% of the total banking sector loans of RM424,489m. In 2005, these figures grew to 26.7% and 22.1% for the respective two sectors based on the total banking sector loans of RM558,066m. Comparing their aggregated amount for both sectors, it was 25.9% in 1997 and shoot up to 48.8% in 2005, almost doubled. These sectors are the fastest to be hit during the crisis as it reflects private consumptions. The problems and risk faced by the banking system are contributed by these residential property loans and consumer credit.

## **1.2 Objectives**

The objective of this study is to examine and present the findings on the patterns of residential property loans and consumer credit in Malaysian economy through the economic cycles (namely financial crisis, recovery, economic slowdown and recovery) for the period 1997 to 2005.

The portfolio for residential property loan and consumer credit were analyzed separately. In order to ascertain which type of consumer credit or residential property loan is more vulnerable, the correlation with GDP for each of the portfolio in the consumer credit sector was then separately examined.

Analysis on the consumer behavior was also made in respect of preferences of consumer to buy on credit or otherwise and the percentage of purchases made on credit were determined using some own estimates.

Subsequently the financing preference trends were analyzed throughout the various economic cycles to obtain an estimated percentage of consumer purchases on credit. An interesting discovery was made and elaborated in Table 4 .

In summary, the objectives of the study are as follows:-

- i) to present the patterns of residential property loans and consumer credit
- ii) to examine the correlation between residential property loans, consumer credit and GDP
- iii) to analyze consumer pattern on purchases on credits
- iv) to analyze consumer pattern : purchasers habit during various economic cycles

### **1.3 Limitations and Assumptions**

Although the individual portfolio findings were supported by empirical evidence, there were some limitations and challenges to the interpretation of the trends observed and the distortion may be due to some of the factors as discussed below.

With the aggressive development and competition for market share of the business, banks have evolved to become very innovative and customer centric thus consumers are now spoilt with financing options.

This development in the financial sectors has caused a shift in consumer preference towards certain types of consumer credit which could stem from cheaper cost or convenience offered like repayment through the internet as opposed to over the counter transactions.

Consumers are now finding it increasingly easier to get hold of credit card with some even being offered under pre-approved initiatives by bankers in their effort to increase the subscriber-base and shift in focus towards fee-based income from annual subscription fees and merchant fees. The usage of credit card is also spurred by promotional activities and customer retention or loyalty programmes whereby card spenders will be rewarded with points which they can then exchanged for gifts.

The starting pay for graduates is now likely to be within the eligibility criteria for credit card application. It is also worth to note that in 2003 there was a conversion

exercise to mandate all banks to replace all magnetic swipe cards to chip-based or smartcards. This has reduced the fraud incidents tremendously and enticed consumers to revert to credit card usage.

The actual purpose of loan taken under Personal Uses were not available and the assumption is that these loans were granted for purposes such as wedding, birth, funeral expenses and also purchases of personal items, education-related, tax payment and all kinds of ad hoc and miscellaneous expenses.

A lot more information is needed to arrive at a reasonable conclusion of which they are either not available or outside the radar of this analysis. These inform which would certainly enhance the findings are as follows:

- Property market report to compare and look for evidence for or absence of indication on any speculative bubble in property market
- Property auction statistics would definitely be useful for any indicative trend and infer any findings to the effect on the outstanding residential property loans
- Banks have also securitized their assets and depending on the arrangements, these may be taken off from their books and impact the loans outstanding figures
- Persistent double digit negative growth in the consumer durables loans and the reducing trend in the outstanding balances do suggest that the loan is left to amortize.
- Non-Performing Loan (NPL) figures were not taken into consideration to fine-tune the results.
- Bad debts written off figures if available and further analysis made would give a new insight into the trends of the residential and consumer loans
- Data available from BNM is categorized into loan type and there is no customer segmentation information. If available, this information can then be analyzed 3-dimensionally to examine the trend of consumer behavior across the economic cycles

for various types of consumer credit and residential property loan against the customer segments to ascertain whether similar trend will surface or whether there will be a significant difference.

- Inflationary Index: Crisis will trigger a price reduction and bring down inflation and increase consumer spending
- Other indices to enhance the analysis would include Employment Index, Consumer Sentiments Index, Industrial Production Index, etc.

## **2. LITERATURE REVIEW**

This area is widely studied, Dion, David Pascal in his article in year 2006 entitled “Does Consumer Confidence Forecast Household Spending?” This Euro Area case indicated that consumer confidence plays a role in explaining spending. When the economic is down and the consumer confidence is shaken, they tend to delay or cut back or on expenditure which will directly and eventually impact the loans outstanding. Prof Paul Mizen who is the Director of CFCM in his article on Consumer Credit and Outstanding Debt in Europe concluded that there is a difference in the consumer credit outstanding in Southern and Northern countries due to various reasons including financial regulations, spending habits and financial development. The detail analysis of some related literature reviews are shown in Appendix I.

### 3. METHODOLOGY

Analysis is done from the perspective of credit extended by the financial sector (i.e. include commercial banks, finance companies and merchant banks) based on the statistics compiled from various financial institutions and made available from our central bank, Bank Negara Malaysia (BNM). The portfolio being analyzed are residential property loans and four broad categories of consumer credit, namely, purchase of passenger cars, consumer durable goods, credit card and personal uses.

The patterns of residential property loans and the various types of consumer credit were examined in relation to the performance of the economy as measured by real GDP using quarterly data series for the period 4Q1997 to 4Q2005 sourced from BNM.

#### 3.1 Data

This study employs data from BNM statistical reports namely BNM Annual Reports, National Accounts Statistics as reported in the monthly statistical bulletin. The data is quarterly data for the period covering 4Q1997 to 4Q2005.

#### 3.2 Definitions of Economic Phases

Based on the quarterly GDP growth performance, whereby two consecutive quarters of contraction is defined as a recession. Two consecutive quarters of below long term average growth of 4% is defined as slowdown. The definitions of economic phases are summarized below:-

- **Recession** : Two consecutive quarters of contraction is defined as recession
- **Slowdown** : Two consecutive quarters of below long term average growth of 4% is defined as slowdown
- **Recovery** : consistent positive growth trend is considered recovery



The phases of economic cycle as defined above are shown in Table 1 below and these growth phases are used to examine the patterns of residential property loans and consumer credit financing.

### **3.3 Statistical Analysis**

This study employs Descriptive Statistic and correlation analysis to examine the consumer credit consumption. Excel spreadsheet and functions were used in the analysis.

All the analyses were quite straightforward and readily derived using the above methods except for Table 4 which needs a little explanation. This table is derived from raw data in Table 10 and is illustrated below.

First column, Change in Consumer Credit (RM mil) is computed using the quarter-on-quarter Consumer Credit data.

Second column, Private Consumption (RM mil) is extracted from BNM Monthly Statistical Bulletin based on current prices and is measured in terms of value added which is sales minus cost of inputs. Value added over gross sales is equal to 0.385.

As for the third column, Gross value of Private Consumption Purchases (RM mil) is obtained by dividing the second column with the 0.385 above.

Fourth column reflects the quarter-on-quarter change of gross value of Private Consumption Purchases from third column.

The fifth column is the Estimated Purchases on Credit is derived from Change in Consumer Credit (first column) compared to Change in Private Consumption Purchases (fourth column) and expressed in percentage.

3.2 **Table 1. Malaysia's Growth Cycle**

Quarter	Real GDP growth (%)	Growth phase
4Q97	5.3	
1Q98	1.2	
2Q98	-4.8	Recession
3Q98	-5.4	
4Q98	-8.3	
1Q99	-0.2	
2Q99	6.5	Recovery
3Q99	9.0	
4Q99	14.0	
1Q00	11.8	
2Q00	7.6	
3Q00	9.1	
4Q00	7.2	
1Q01	1.5	
2Q01	0.9	
3Q01	-0.3	
4Q01	0.2	
1Q02	2.7	Recovery
2Q02	4.7	
3Q02	7.1	
4Q02	6.9	
1Q03	6.3	
2Q03	5.9	
3Q03	4.6	
4Q03	6.5	
1Q04	8.2	
2Q04	7.9	
3Q04	6.4	
4Q04	4.9	
1Q05	5.4	
2Q05	3.9	
3Q05	5.2	
4Q05	5.5	

*Source: Derived from National Accounts statistics as reported in Bank Negara Malaysia's Monthly Statistical Bulletin.*

The economic growth phases as defined above will be used to examine the pattern of residential property loans and consumer credit financing.

## 4. EMPIRICAL FINDINGS

### *Patterns of Residential Property Loans and Consumer Credit*

The performance of residential property lending and the various types of consumer financing during the various phases of growth are shown in Table 2. The main patterns for each type of lending are described individually below.

**Table 2. Average Growth of Residential Property Loans and Consumer Credit during the various phases of economic cycles and their correlation with the overall economic activities**

		Residential property loans	Personal uses	Credit cards	Purchase of consumer durable goods	Purchase of passenger cars	Real GDP
		(%)					
1997-98	Financial crisis	16.8	1.2	7.4	-45.1	1.2	-3.5
1999-00	Recovery	11.4	-1.3	26.9	-7.0	6.5	9.3
2001-02	Economic slowdown	17.4	1.2	22.5	-31.1	21.7	1.0
2003-05	Recovery	15.2	9.3	17.5	-14.3	17.4	5.9
	Mean	15.3	5.5	19.4	-20.8	14.2	4.5
	Standard deviation	4.7	10.8	10.1	16.7	12.3	4.7
	Coefficient of variation (%)	31.0	194.6	52.2	-80.3	86.5	105.7
	<b>Correlation with real GDP</b>	<b>-0.27</b>	<b>0.19</b>	<b>0.54</b>	<b>0.82</b>	<b>0.18</b>	

*Source: The above statistics is derived from the data in Table 7 by averaging the quarterly figures within the similar economic cycle.*

**Residential property loans:** The trend of residential property loans appears to be counter-cyclical in nature. It grew by 16.8% during the 1997-98 financial crisis but slowed to 11.4% during the 1999-2000 recovery period. It shot up again to 17.4% during the economic slowdown in 2001-02 but moderated to 15.2% during the 2003-05 recovery.

Its relative high growth throughout the entire period of review together with the lagged or counter-cyclical nature can be attributed to a number of factors such as the country's young and growing population, long term nature of property purchases, relatively safe form of lending from a banking perspective, housing loan subsidies provided by employers, among others. As shown in Table 2, the growth in residential property loans is negatively correlated with GDP growth (-0.27). The negative correlation indicates that the lending by the banks as well as interest by home buyers is not tied to the state of the economy as explained by the fundamental need and long term nature of the purchasing decision.

**Personal uses:** Consumer borrowing from banks for personal uses shows a lagged effect. It grew weakly at 1.2% during the financial crisis and contracted by 1.3% during the 1999-2000 recovery. Its growth was also similarly weak at 1.2% during the 2001-02 economic slowdown but picked up strongly to an average growth of 9.3% during the 2003-05 recovery period. It has a positive but weak correlation with GDP growth calculated at 0.19 (Table 2).

**Credit cards:** During the 1997-98 financial crisis, credit card lending grew at a moderately strong pace of 7.4%. Its growth tripled to 26.9% during the 1999-2000 recovery and continued strongly at 22.5% during the short economic slowdown but moderated to 17.5% during the 2003-05 recovery. The double digit growth especially through the period of 2001-02 economic slowdown suggests that as the economy advances, consumers are increasingly moving towards a cashless society in response to the government's initiative to enhance payment efficiency as well as the benefits of convenience, safety and security for both consumers and businesses. This is supported by the moderately strong correlation coefficient of 0.54 with real GDP growth (Table 2).

**Consumer Durable Goods:** The trend for loans to purchase consumer durable goods has strong positive correlation with GDP at 0.82 (Table 2). During the period of financial crisis in 1997-98, growth dipped 45.1% and slipped further by 7% during the recovery period from 1999-2000. During the economic slowdown from 2001-2002, it again went down by 31.1% and a further 14.3% during the subsequent recovery period from 2003-05.

Throughout the economic cycles this portfolio has consistently reflect negative growth possibly attributed to other factors which were discussed at length at under paragraph 1.3 Limitations and Assumptions above. The trend suggests that banks tend to reduce lending for durable goods purchase while consumers will cut spending on durable goods when the economic conditions are weak and boost purchases during good times.

**Passenger Cars:** Borrowing from banks for purchase of passenger cars showed a positive but weak correlation with GDP growth calculated at 0.18 (Table 2). During the financial crisis in 1997-98, it grew weakly at 1.2% and improved slightly to 6.5% in 1990-2000. However during the economic slowdown in 2001-02 it shot up to 21.7% and maintained quite a strong growth of 17.4% during the recovery in 2003-05.

### ***Summary of Patterns of Consumer Financing and Purchasing***

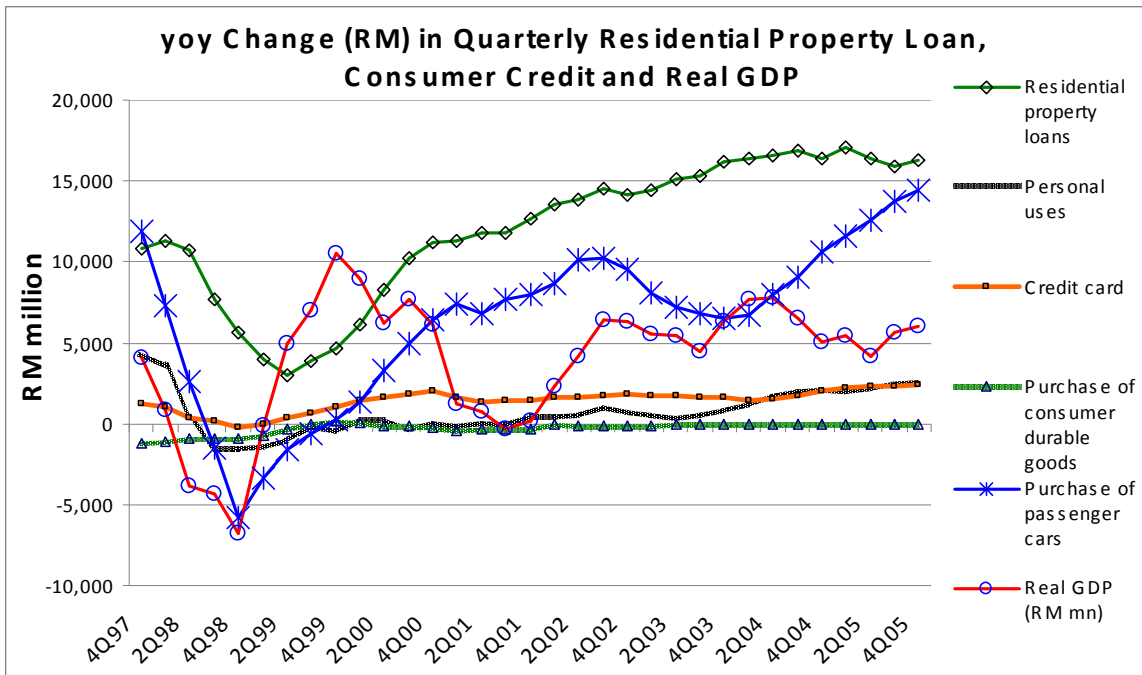
In summary, all the consumer loans are positively correlated to the GDP. Consumer durable goods stands out as the most positively correlated, credit card next whilst personal uses and passenger cards were slightly positively correlated. On an aggregated basis, total consumer spending is still positively correlated to the GDP at 0.28 (Table 9). It is interesting to note that residential property loan is negatively correlated to the GDP at -0.27. However the average year-on-year growth measured quarterly in percentage remains positive throughout the economic cycles hovering between 5 to 30% (Table 9).

During the economic downturn, the property becomes cheap and for those who have good credit access, they will tend to buy. This help to explain why the residential property loans grew even when the GDP is contracting.

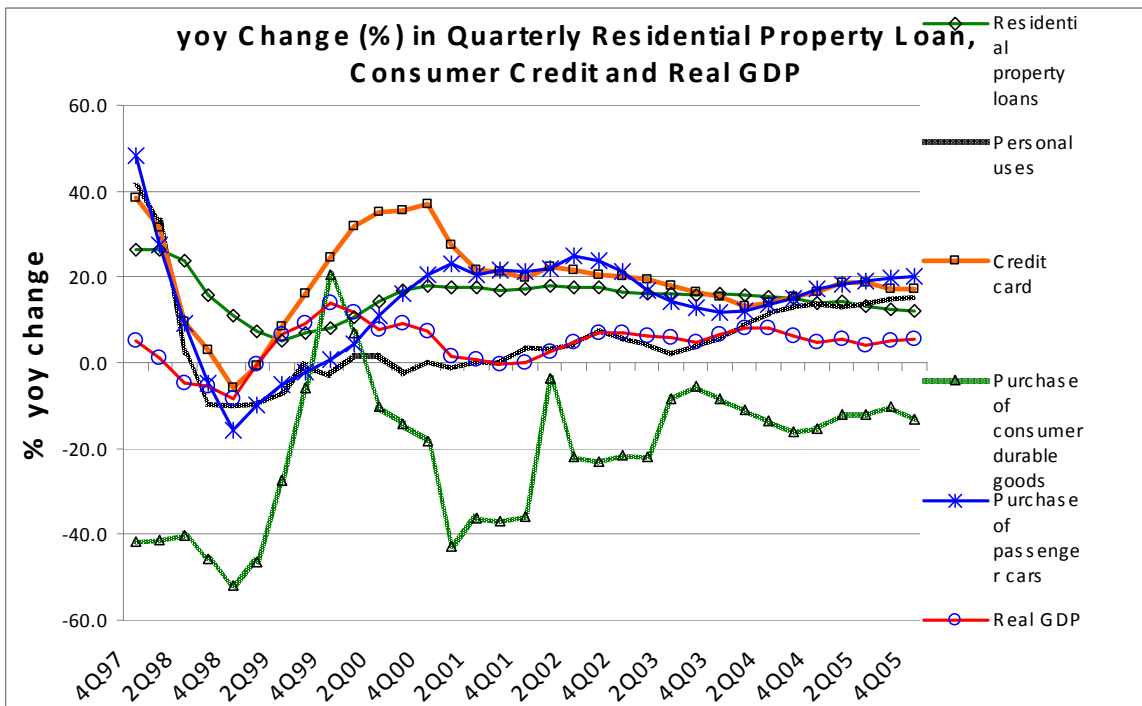
## **5. DISCUSSION OF RESULTS**

Refer to Chart A below for further discussions.

**Chart A : Average growth of Residential Property Loan and Consumer Credit and their comparison with the real GDP**



The above chart is plotted using data from Table 6



The above chart is plotted using data from Table 7

The Asian Financial Crisis was triggered by the attack on the Thai currency in July 1997 and spread to other economies in the region. The Malaysian economy began to decline in the 4Q97 and the contraction lasted 3 consecutive quarters from the third quarter of 1998 to the first quarter of 1999.

Purchase of consumer durable goods and to a lesser extent credit card loans, are strongly correlated with the health of the economy as measured by real GDP growth. This is consistent with the observation that consumers tend to cut down or postpone the purchase of consumer durable goods, such as electrical appliances and other 'big ticket' items during periods of economic downturns.

The cutback in purchase of passenger cars was less severe during the recession, but more interestingly, the rebound was sharper than the other consumer loan types when the economy recovered in 1999 and beyond.

From a consumer financing perspective, the decline in purchase of consumer durable goods was most severe, amounting to more than 40%, followed by purchase of passenger cars, loans for personal use and credit card loans respectively.

Credit card usage seems to be on the increasing trend from the end of 1996 to end of 1998 two-year period despite the fact the real GDP has declined sharply in end of 1997. Also consumers are being given more financing options and this is reflected by the decrease in the financing of consumer durable goods which may not be an absolute decrease but merely a shift to say, use of credit card now that there is "zero interest" repayment. Using credit card is also more convenient than applying for consumer durables loans which can be cumbersome with all the red tapes in processing. A point to note is that consumer durable loans are likely applied by lower income group who are not eligible for credit card.

Referring the above (Table 3), the positive correlation between real GDP growth and consumer loans for the purchase of consumer durable goods was very high, amounting to 0.82. The correlation remains high at 0.73 in value terms.

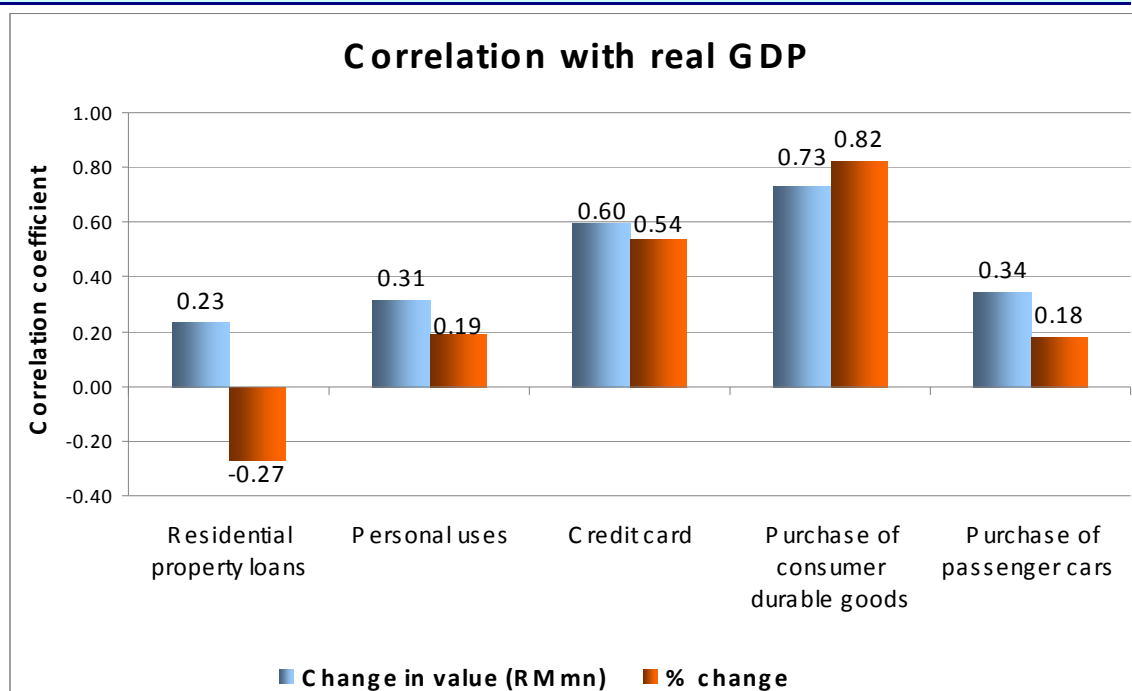
**Table 3. Summary - Average Quarterly Change (RM and Percentages) for Residential Property Loans and Consumer Credit and Correlation with GDP**

	Residential property loans	Personal uses	Credit cards	Purchase of consumer durable goods	Purchase of passenger cars	Real GDP
<b>(RM Mil)</b>						
Mean	11,944.0	744.0	1,423.0	-261.0	6,328.0	4,016.0
Standard deviation	4,346.2	1,372.9	679.1	359.6	5,011.1	3,937.9
Coefficient of variation (%)	36.4	184.6	47.7	-137.8	79.2	98.1
<b>Correlation with real GDP</b>	<b>0.23</b>	<b>0.31</b>	<b>0.60</b>	<b>0.73</b>	<b>0.34</b>	

The statistic above is derived using data from Table 6 and

	Residential property loans	Personal uses	Credit cards	Purchase of consumer durable goods	Purchase of passenger cars	Real GDP
<b>(Percentage)</b>						
Mean	15.3	5.5	19.4	-20.8	14.2	4.5
Standard deviation	4.7	10.8	10.1	16.7	12.3	4.7
Coefficient of variation (%)	31.0	194.6	52.2	-80.3	86.5	105.7
<b>Correlation with real GDP</b>	<b>-0.27</b>	<b>0.19</b>	<b>0.54</b>	<b>0.82</b>	<b>0.18</b>	

the statistic below is derived using data from Table 7





The positive sign indicates that during the economic recovery people tend to spend more on consumer durable goods. This appears to be in line with the current government economic stimulus package to encourage consumer consumption domestically.

As noted in Chart A above, the purchase of passenger cars is less sensitive to the economic cycle with a relatively low positive correlation coefficient of 0.18 percentage in growth terms and 0.34 in value terms. The relationship although weak is still positively correlated, this suggest that more people tend to purchase cars during good times. However, since cars are necessities, the purchasing pattern can also be noticed during the recession and slowdown economy.

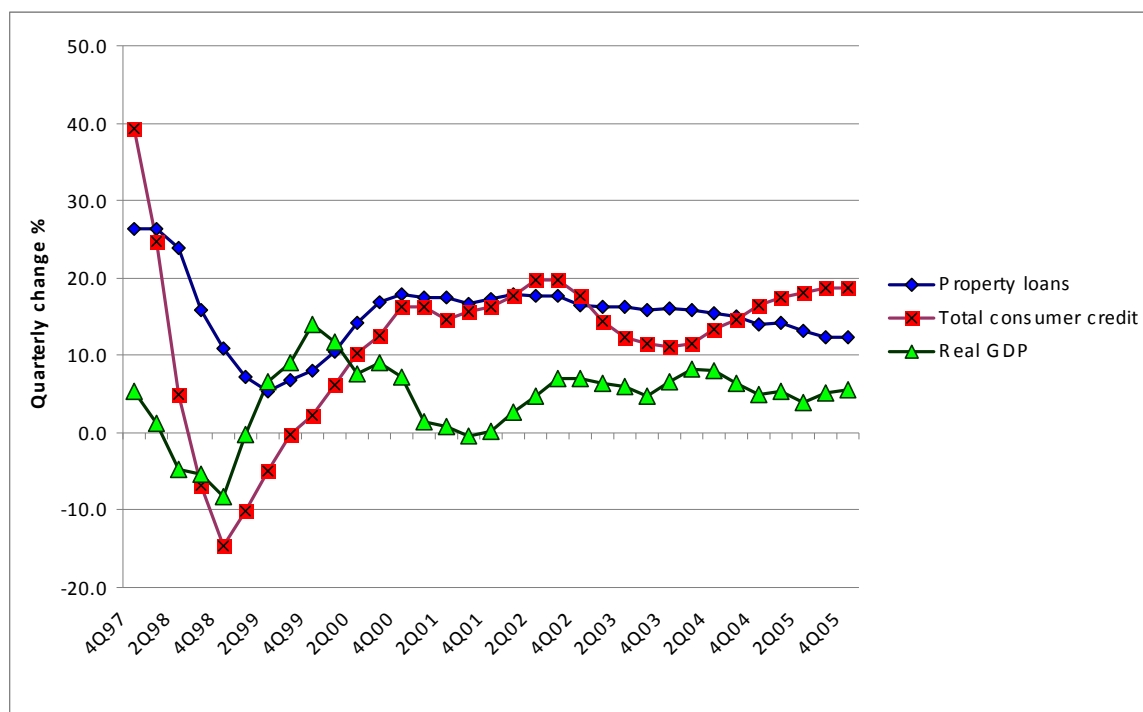
Purchase of residential property is negatively correlated to economy cycle in growth terms (-0.27) and weakly correlated in value terms (0.23). This is not unexpected since house purchases is a long term decision and banks evaluate the credit worthiness of borrowers based on long term factors such as employment and income stability.

Recognizing that there could also be a shift in the consumer financing preferences due to the different advantages and disadvantages for each of the financing type and with the development of more customer centric products focusing on flexibility and convenience, the aggregated consumer spending is compared (along with the residential property loans) against the GDP

From Chart B below, growth in both residential property and consumer loans are correlated to the real GDP. Consumer credit is more influenced by recession compared to property loans and went into negative growth during the economic slowdown.

Property loan is less volatile as indicated by the flatter line from last quarter of 2000 to 2005 during the economic slowdown and recovery phase and there is no negative growth. During the recession, growth rate reduced quite substantially and remain stable throughout the recovery period.

**Chart B: Average Quarterly Change yoy (%) for Residential Property Loans and Total Consumer Credit and comparison with GDP**



The above chart is generated from data in Table 9

Referring to Table 4 below, Malaysian households appear to increase purchases using bank credit during economic downturns. During the 1997/98 and 2001/02 downturn of the economy, the proportion of consumer purchases using bank credit were estimated at 78.2% and 200.3% respectively. They were markedly lower, averaging -57.2% and 41.1% during the recovery periods in 1999-2000 and 2003-05. Because the financial and banking crisis during this period were so severe, consumers did not immediately purchase unnecessary goods on credit

The high percentage of purchases on credit during the slowdown in 2001-02 is attributed to the government's stimulus packages such as "zero inflation" sales campaign which sheers the consumer behavior towards purchasing on credit.

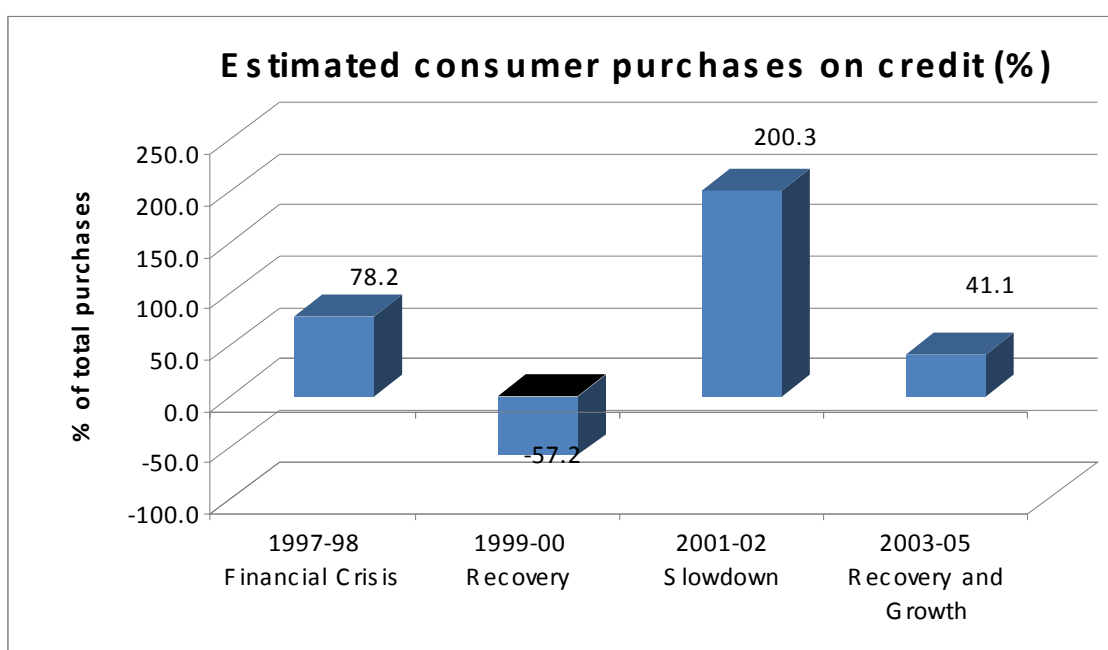
**Table 4: Current Prices, Gross Value and Change in Private Consumption (RM), Estimated Purchases on Credit (%) and Real GDP (RM Mil - constant 2000 prices)**

	Private consumption (RM mil, current prices)	Gross value of private consumption purchases (RM mil, current prices)	Change in private consumption purchases (RM mil)	Est. purchases on credit (%)	Real GDP (RM mil, constant 2000 prices)
Mean	42,076	109,288	2,100	48	91,778
Standard deviation	8,679	22,543	5,489	186	12,139
Coefficient of variation (%)	20.6	20.6	261.4	389.2	13.2

#### **% purchases on credit**

1997-98 Financial Crisis	78.2
1999-00 Recovery	-57.2
2001-02 Slowdown	200.3
2003-05 Recovery and Growth	41.1

The above statistics is derived using data in Table 10



## 6. CONCLUSION

In economic downturn, many factors need to be considered and bankers ought to be more prudent and selective on borrowers as well as product offerings. People are more careful with their spending, avoiding heavy luxury items and preferring to spend on essentials only. The tendency is to save and only buy necessary items and this is evident by the higher deposit level during the crisis. Government will likely announce rescue packages to avoid consumer spending slump. Banks are jittery and reluctant to give out loans easily to save themselves from becoming victims of the sluggish economy. All these had a chilling effect on spending and hence a decline in consumer loans.

Except for loans to purchase passenger cars the other three types of consumer loans are quite interchangeable in the financing choices. In fact it is quite difficult to ascertain whether increase in one loan type is compensated by a similar decrease in based on this hypothesis. As indicated by the empirical evidence, usage of credit card is getting more popular as compared to loans for consumer durable goods. Purpose of loans under personal uses is not defined and thus makes it difficult to analyze further and arrive at a reasonable conclusion.

In the absence of property bubble, lending to residential property market is still a viable business as evidenced by the positive growth even during the recession in 1997-98. With the increasing population, the demand for residential houses is on an upward trend for a longer horizon and the peaks and troughs are just a reflection of the economic cycles

In conclusion this economic sectors involving residential property and consumer spending is important to revive the economy. Government recently recognizes the need to stimulate more economic activities in these sectors by providing several financing packages, notable the RM7b fund injection to boost the SMEs. By encouraging SMEs, more factories will be planted, more job opportunities created and hence more disposable income will be available to stimulate the economy further.

**Table 5 : Quarter-on-quarter Outstanding (RM million)**

	Residential property	Personal uses	Credit card	Purchase of consumer durable goods	Purchase of passenger cars	Real GDP (RM mn)
4Q96	41,186	10,585	3,316	2,942	24,678	77806
1Q97	43,158	10,989	3,347	2,695	26,779	75369
2Q97	45,060	13,864	3,967	2,193	29,399	80581
3Q97	48,774	15,107	4,207	1,953	32,482	81543
4Q97	52,021	14,925	4,586	1,717	36,608	81893
1Q98	54,499	14,608	4,396	1,578	34,081	76249
2Q98	55,813	14,179	4,342	1,309	32,037	76705
3Q98	56,507	13,654	4,336	1,062	30,982	77169
4Q98	57,658	13,447	4,313	827	30,832	75071
1Q99	58,449	13,206	4,358	846	30,714	76081
2Q99	58,770	13,218	4,705	952	30,410	81690
3Q99	60,373	13,561	5,028	998	30,336	84128
4Q99	62,306	13,067	5,376	996	31,072	85563
1Q00	64,607	13,443	5,746	907	32,030	85032
2Q00	67,081	13,444	6,358	854	33,716	87871
3Q00	70,567	13,234	6,811	854	35,260	91809
4Q00	73,475	13,110	7,360	812	37,464	91684
1Q01	75,878	13,276	7,333	519	39,467	86301
2Q01	78,867	13,471	7,740	545	40,569	88628
3Q01	82,342	13,229	8,248	538	42,919	91489
4Q01	86,186	13,571	8,812	520	45,431	91831
1Q02	89,413	13,723	8,963	501	48,164	88633
2Q02	92,759	14,056	9,417	426	50,665	92808
3Q02	96,902	14,245	9,951	414	53,142	97950
4Q02	100,366	14,352	10,591	407	55,006	98167
1Q03	103,851	14,305	10,704	391	56,261	94198
2Q03	107,848	14,385	11,119	390	57,855	98241
3Q03	112,170	14,794	11,606	390	59,964	102461
4Q03	116,553	15,177	12,236	373	61,491	104512
1Q04	120,236	15,537	12,127	348	62,988	101892
2Q04	124,434	16,085	12,668	336	65,787	106050
3Q04	129,015	16,767	13,370	328	69,028	108983
4Q04	132,914	17,289	14,235	315	72,082	109582
1Q05	137,353	17,576	14,390	306	74,587	107378
2Q05	140,813	18,314	15,024	296	78,363	110237
3Q05	144,953	19,287	15,680	294	82,748	114608
4Q05	149,198	19,918	16,693	274	86,480	115595

Source : BNM

**Table 6 : Quarter-on-quarter Change (RM million)**

	Residential property loans	Personal uses	Credit card	Purchase of consumer durable goods	Purchase of passenger cars	Real GDP (RM mil)
4Q97	10,835	4,340	1,270	-1,225	11,930	4,087
1Q98	11,341	3,619	1,049	-1,117	7,302	880
2Q98	10,754	315	375	-884	2,638	-3,876
3Q98	7,733	-1,453	129	-890	-1,500	-4,374
4Q98	5,637	-1,478	-273	-890	-5,776	-6,822
1Q99	3,950	-1,402	-38	-732	-3,367	-168
2Q99	2,957	-961	362	-357	-1,628	4,985
3Q99	3,866	-93	692	-64	-646	6,959
4Q99	4,648	-380	1,063	169	240	10,492
1Q00	6,157	237	1,388	60	1,316	8,951
2Q00	8,311	226	1,654	-98	3,307	6,181
3Q00	10,194	-327	1,783	-144	4,925	7,681
4Q00	11,168	43	1,984	-184	6,392	6,121
1Q01	11,271	-168	1,587	-387	7,437	1,269
2Q01	11,786	27	1,382	-309	6,853	757
3Q01	11,775	-5	1,437	-316	7,659	-320
4Q01	12,712	461	1,452	-292	7,967	147
1Q02	13,535	448	1,630	-18	8,698	2,332
2Q02	13,892	585	1,677	-119	10,096	4,180
3Q02	14,560	1,016	1,703	-125	10,223	6,461
4Q02	14,179	782	1,779	-113	9,575	6,336
1Q03	14,438	581	1,742	-110	8,097	5,565
2Q03	15,089	329	1,702	-36	7,190	5,433
3Q03	15,268	549	1,655	-23	6,822	4,511
4Q03	16,187	825	1,645	-35	6,485	6,345
1Q04	16,385	1,233	1,423	-43	6,727	7,694
2Q04	16,586	1,700	1,549	-53	7,933	7,809
3Q04	16,845	1,973	1,765	-63	9,064	6,522
4Q04	16,361	2,112	1,999	-58	10,591	5,070
1Q05	17,117	2,038	2,263	-42	11,598	5,486
2Q05	16,379	2,228	2,356	-41	12,576	4,187
3Q05	15,938	2,520	2,310	-34	13,720	5,625
4Q05	16,285	2,629	2,458	-41	14,398	6,013

Source : BNM

**Table 7 : Quarter-on-quarter Change (%)**

	Residential property loans	Personal uses	Credit card	Purchase of consumer durable goods	Purchase of passenger cars	Real GDP
<b>4Q97</b>	26.3	41.0	38.3	-41.6	48.3	5.3
<b>1Q98</b>	26.3	32.9	31.3	-41.5	27.3	1.2
<b>2Q98</b>	23.9	2.3	9.5	-40.3	9.0	-4.8
<b>3Q98</b>	15.9	-9.6	3.1	-45.6	-4.6	-5.4
<b>4Q98</b>	10.8	-9.9	-6.0	-51.8	-15.8	-8.3
<b>1Q99</b>	7.2	-9.6	-0.9	-46.4	-9.9	-0.2
<b>2Q99</b>	5.3	-6.8	8.3	-27.3	-5.1	6.5
<b>3Q99</b>	6.8	-0.7	16.0	-6.0	-2.1	9.0
<b>4Q99</b>	8.1	-2.8	24.6	20.4	0.8	14.0
<b>1Q00</b>	10.5	1.8	31.9	7.1	4.3	11.8
<b>2Q00</b>	14.1	1.7	35.1	-10.3	10.9	7.6
<b>3Q00</b>	16.9	-2.4	35.4	-14.4	16.2	9.1
<b>4Q00</b>	17.9	0.3	36.9	-18.5	20.6	7.2
<b>1Q01</b>	17.4	-1.2	27.6	-42.7	23.2	1.5
<b>2Q01</b>	17.6	0.2	21.7	-36.2	20.3	0.9
<b>3Q01</b>	16.7	0.0	21.1	-37.0	21.7	-0.3
<b>4Q01</b>	17.3	3.5	19.7	-36.0	21.3	0.2
<b>1Q02</b>	17.8	3.4	22.2	-3.5	22.0	2.7
<b>2Q02</b>	17.6	4.3	21.7	-21.9	24.9	4.7
<b>3Q02</b>	17.7	7.7	20.6	-23.1	23.8	7.1
<b>4Q02</b>	16.5	5.8	20.2	-21.6	21.1	6.9
<b>1Q03</b>	16.1	4.2	19.4	-21.9	16.8	6.3
<b>2Q03</b>	16.3	2.3	18.1	-8.5	14.2	5.9
<b>3Q03</b>	15.8	3.9	16.6	-5.6	12.8	4.6
<b>4Q03</b>	16.1	5.7	15.5	-8.5	11.8	6.5
<b>1Q04</b>	15.8	8.6	13.3	-11.1	12.0	8.2
<b>2Q04</b>	15.4	11.8	13.9	-13.6	13.7	7.9
<b>3Q04</b>	15.0	13.3	15.2	-16.1	15.1	6.4
<b>4Q04</b>	14.0	13.9	16.3	-15.5	17.2	4.9
<b>1Q05</b>	14.2	13.1	18.7	-12.0	18.4	5.4
<b>2Q05</b>	13.2	13.9	18.6	-12.1	19.1	3.9
<b>3Q05</b>	12.4	15.0	17.3	-10.4	19.9	5.2
<b>4Q05</b>	12.3	15.2	17.3	-13.1	20.0	5.5

Source : BNM

**Table 8 : Relative share of total consumer loans**

	Personal uses	Credit card	Purchase of consumer durable goods	Purchase of passenger cars	Total
4Q96	25.5	8.0	7.1	59.4	100.0
1Q97	25.1	7.6	6.2	61.1	100.0
2Q97	28.1	8.0	4.4	59.5	100.0
3Q97	28.1	7.8	3.6	60.4	100.0
4Q97	25.8	7.9	3.0	63.3	100.0
1Q98	26.7	8.0	2.9	62.3	100.0
2Q98	27.3	8.4	2.5	61.8	100.0
3Q98	27.3	8.7	2.1	61.9	100.0
4Q98	27.2	8.7	1.7	62.4	100.0
1Q99	26.9	8.9	1.7	62.5	100.0
2Q99	26.8	9.5	1.9	61.7	100.0
3Q99	27.2	10.1	2.0	60.8	100.0
4Q99	25.9	10.6	2.0	61.5	100.0
1Q00	25.8	11.0	1.7	61.4	100.0
2Q00	24.7	11.7	1.6	62.0	100.0
3Q00	23.6	12.1	1.5	62.8	100.0
4Q00	22.3	12.5	1.4	63.8	100.0
1Q01	21.9	12.1	0.9	65.1	100.0
2Q01	21.6	12.4	0.9	65.1	100.0
3Q01	20.4	12.7	0.8	66.1	100.0
4Q01	19.9	12.9	0.8	66.5	100.0
1Q02	19.2	12.6	0.7	67.5	100.0
2Q02	18.9	12.6	0.6	67.9	100.0
3Q02	18.3	12.8	0.5	68.3	100.0
4Q02	17.9	13.2	0.5	68.5	100.0
1Q03	17.5	13.1	0.5	68.9	100.0
2Q03	17.2	13.3	0.5	69.1	100.0
3Q03	17.1	13.4	0.4	69.1	100.0
4Q03	17.0	13.7	0.4	68.9	100.0
1Q04	17.1	13.3	0.4	69.2	100.0
2Q04	17.0	13.4	0.4	69.3	100.0
3Q04	16.9	13.4	0.3	69.4	100.0
4Q04	16.6	13.7	0.3	69.4	100.0
1Q05	16.4	13.5	0.3	69.8	100.0
2Q05	16.4	13.4	0.3	70.0	100.0
3Q05	16.3	13.3	0.2	70.1	100.0
4Q05	16.1	13.5	0.2	70.1	100.0

Source : BNM



**Table 9: Residential Property Loans, Total Consumer Credit and Real GDP – Outstanding**  
**Figure and year-on-year Change expressed in Percentage (%)**

	Residential property loans (RM mil)	Total consumer credit (RM mil)	Real GDP (RM mil, constant 2000 prices)	Residential property loans (%) yoy change)	Total consumer credit (%) yoy change)	Real GDP (% yoy change)
4Q96	41,186	41,521	77,806			
1Q97	43,158	43,809	75,369			
2Q97	45,060	49,424	80,581			
3Q97	48,744	53,749	81,543			
4Q97	52,021	57,836	81,893	26.3	39.3	5.3
1Q98	54,499	54,663	76,249	26.3	24.8	1.2
2Q98	55,813	51,868	76,705	23.9	4.9	-4.8
3Q98	56,507	50,034	77,169	15.9	-6.9	-5.4
4Q98	57,658	49,419	75,071	10.8	-14.6	-8.3
1Q99	58,449	49,124	76,081	7.2	-10.1	-0.2
2Q99	58,770	49,284	81,690	5.3	-5.0	6.5
3Q99	60,373	49,923	84,128	6.8	-0.2	9.0
4Q99	62,306	50,510	85,563	8.1	2.2	14.0
1Q00	64,607	52,126	85,032	10.5	6.1	11.8
2Q00	67,081	54,372	87,871	14.1	10.3	7.6
3Q00	70,567	56,160	91,809	16.9	12.5	9.1
4Q00	73,475	58,745	91,684	17.9	16.3	7.2
1Q01	75,878	60,594	86,301	17.4	16.2	1.5
2Q01	78,867	62,324	88,628	17.6	14.6	0.9
3Q01	82,342	64,934	91,489	16.7	15.6	-0.3
4Q01	86,186	68,334	91,831	17.3	16.3	0.2
1Q02	89,413	71,351	88,633	17.8	17.8	2.7
2Q02	92,759	74,563	92,808	17.6	19.6	4.7
3Q02	96,902	77,751	97,950	17.7	19.7	7.1
4Q02	100,366	80,357	98,167	16.5	17.6	6.9
1Q03	103,851	81,662	94,198	16.1	14.4	6.3
2Q03	107,848	83,748	98,241	16.3	12.3	5.9
3Q03	112,170	86,754	102,461	15.8	11.6	4.6
4Q03	116,553	89,277	104,512	16.1	11.1	6.5
1Q04	120,236	91,001	101,892	15.8	11.4	8.2
2Q04	124,434	94,878	106,050	15.4	13.3	7.9
3Q04	129,015	99,493	108,983	15.0	14.7	6.4
4Q04	132,914	103,922	109,582	14.0	16.4	4.9
1Q05	137,353	106,858	107,378	14.2	17.4	5.4
2Q05	140,813	111,996	110,237	13.2	18.0	3.9
3Q05	144,953	118,009	114,608	12.4	18.6	5.2
4Q05	149,198	123,365	115,595	12.3	18.7	5.5

**Correlation with GDP**

**-0.27**

**0.28**

**Source : BNM**

**Table 10 Current Price, Gross Value and Change in Private Consumption, Estimated Purchases on Credit (%) and Real GDP (RM Mil - based on constant 2000 prices)**

	Change in Consumer Credit (RM mn)	Private consumption (RM mn, current prices)	Gross value of private consumption purchases (RM mn, current prices)	Change in private consumption purchases (RM mn)	Est. purchases on credit (%)	Real GDP (RM mn, constant 2000 prices)
1Q97	2288	34,802	90,396	1,655	138	75,369
2Q97	5614	33,094	85,960	-4,437	-127	80,581
3Q97	4325	35,060	91,064	5,105	85	81,543
4Q97	4087	35,710	92,752	1,688	242	81,893
1Q98	-3173	33,374	86,687	-6,066	52	76,249
2Q98	-2795	30,997	80,511	-6,176	45	76,705
3Q98	-1834	31,165	80,948	437	-420	77,169
4Q98	-616	32,208	83,657	2,709	-23	75,071
1Q99	-295	32,880	85,401	1,745	-17	76,081
2Q99	160	32,300	83,896	-1,505	-11	81,690
3Q99	639	33,719	87,583	3,687	17	84,128
4Q99	587	36,808	95,605	8,022	7	85,563
1Q00	1616	39,192	101,797	6,193	26	85,032
2Q00	2246	37,196	96,613	-5,184	-43	87,871
3Q00	1788	38,813	100,813	4,200	43	91,809
4Q00	2586	40,740	105,818	5,005	52	91,684
1Q01	1849	40,817	106,018	200	924	86,301
2Q01	1730	38,562	100,161	-5,857	-30	88,628
3Q01	2610	40,411	104,964	4,803	54	91,489
4Q01	3400	42,828	111,242	6,278	54	91,831
1Q02	3018	43,224	112,270	1,029	293	88,633
2Q02	3212	40,876	106,171	-6,099	-53	92,808
3Q02	3188	42,492	110,369	4,197	76	97,950
4Q02	2606	45,893	119,203	8,834	30	98,167
1Q03	1304	46,795	121,545	2,343	56	94,198
2Q03	2087	43,943	114,138	-7,408	-28	98,241
3Q03	3006	46,108	119,761	5,623	53	102,461
4Q03	2524	49,828	129,423	9,662	26	104,512
1Q04	1723	51,269	133,166	3,743	46	101,892
2Q04	3877	49,695	129,078	-4,088	-95	106,050
3Q04	4615	51,574	133,958	4,881	95	108,983
4Q04	4429	56,034	145,543	11,584	38	109,582
1Q05	2937	57,229	148,647	3,104	95	107,378
2Q05	5138	54,900	142,597	-6,049	-85	110,237
3Q05	6012	58,835	152,818	10,221	59	114,608
4Q05	5357	63,271	164,340	11,522	46	115,595

Source: BNM

## Literature Review

## Appendix I

Source/Author (Date)	Title/Topic	Findings	Contributions
Dion, David Pascal Unspecified  (2006)	Does Consumer Confidence Forecast Household Spending? The Euro Area Case  (from MPRA - Munich Personal RePEc Archive)	Consumer confidence plays a role in explaining spending. Apart from the DRI and BUSY models, other users relied on survey results to build their forecasts; Brooking-SSRC and Wharton-EFU integrate qualitative variables to make their short-term forecasts.	This survey results were used in short-term macro-econometric modeling such as the DRI/McGraw Hill Model and BUSY Model of European Commission.
Singapore Department of Statistics  (1999)	Consumer Credit in Singapore: Trends and Analysis	Consumer credit burden remained relatively healthy in Singapore; recent increase in the charge-off rate of credit card debt suggests that a larger number of households might be having difficulties meeting their debt obligations. Level of consumer credit in Singapore is approaching the level in Germany but remain substantially lower than other developed countries	Analysed the trend in consumer credit and the impact on households; then compares the level of consumer credit in Singapore with that in selected developed countries
Dong He Elfie Yao Kim-hung Li  (2005)	The growth of Consumer Credit in Asia	The significance of household lending has increased sharply. In particular, non-secured credit card debt has been growing exceptionally fast, albeit from a low base. These developments raise a number of issues, such as the implications for financial stability due to a rapid rise in consumer credit, whether risk management systems and supervisory practices should be strengthened in response to the new risks involved, and whether governments need to look at new requirements in financial sector infrastructure	Corporate and financial sector restructuring in the aftermath of the 1997-98 Asian financial crisis has led to a marked turnaround in the balance sheets of financial institutions in Asia and this paper addressed the issues. It focuses on the growth of non-secured credit card debt instead of mortgages, which have been dealt with extensively elsewhere. It will first provide an overview of consumer credit in various Asian economies, and then focus on Hong Kong's experience and the lessons learn
Prof. Paul Mizen Director, CFCM  (undated)	Consumer Credit and Outstanding Debt in Europe  produced by Centre for Finance & Credit Markets (CFCM)	Average household savings is high and consumer credit outstanding is low in southern European countries but the reverse is true in northern countries. Found the reasons for the difference due to financial regulations, habits and customs, variations in age profile and other differences in demography and financial development	Policy makers should be concerned about debt and savings level and also about the composition of debts. What point is debt statistics become worryingly high or savings rates too low and define the sustainable level of consumer credit or rate of savings or the composition/mix.

<b>Source/Author (Date)</b>	<b>Title/Topic</b>	<b>Findings</b>	<b>Contributions</b>
Robert Z. Aliber (2005)	The 35 Most Tumultuous Years in Monetary History: Shocks, the Transfer Problem and Financial Trauma	The failure of national banking systems, the large swings in the market exchange rates, the large variability in flows of national saving across national boundaries and the bubbles in asset prices – were systematically related	This paper explains why there was such a trauma and whether the trauma resulted because the shocks were larger than the previous periods, or whether the impact of the shock of a given magnitude on prices of currencies and prices of securities and other assets was larger because of difference in the institutional structures and especially the absence of parties for national currencies
Dean Karlan Jonathan Zinman (2005)	Elasticities of Demand for Consumer Credit	Loan size is far more responsive to changes in loan maturity than to changes in interest rate and this pattern is more pronounced among lower income individuals, consistent with liquidity constraints that decreases income	Similarities and differences in price sensitivity of price elasticities, importance of distinguishing between rate decreases and increases
Gabe de Bondt BIS - Bank for International Settlements, Switzerland (1999)	Credit Channels and Consumption in Europe: Empirical Evidence	Findings supports the view that credit channels of monetary policy are a macroeconomic relevant financial propagation mechanism; the degree of relevance differs between European countries. In Germany, Italy and Netherlands; in recessions the financial accelerator effect may lead to a decline in annual consumption growth by about 0.4% per quarter whereas in France, UK and Belgium no significant financial propagation mechanism has been found.	Analysis made on the implication for monetary policy, especially within EMU context/cross country difference regarding the inter-temporal elasticity of substitution.. Consumption is comparatively insensitive to movements in the real interest rate in France and Italy probable due to high financial regulations. This suggest that financial liberalization increases the interest rate sensitivity of consumption.
Asst Prof Sonthya Vanichvatana, Ph D (2007)	Thailand Real Estate Market Cycles: Case Study of 1997 Economic Crisis	All stakeholders, both public agencies & private organizations need to be more responsible for the industry's sustainable long term development. On the public side, new policies, laws and regulations must be continuously updated such as the recent e.g of cooperation between the Bank of Thailand and the Ministry of Finance to guard against past monetary and financial controls mistakes namely tighter controls against currency attacks and limiting mortgage loan amounts	This paper describes the fundamental elements of real estate cycles including types, characteristics and important influencing factors to visualize a real estate cycle's fundamentals and share the findings with the real estate community and other related academic researchers.

<b>Source/Author (Date)</b>	<b>Title/Topic</b>	<b>Findings</b>	<b>Contributions</b>
Magaret Carten Dan Littman Scott Schuh Joanna Stavins  (2006)	Consumer Behavior and Payment Choice: 2006 Conference Summary	For consumer to make rational payment choices, full information must be available to them to enable them to make sound and informed choices otherwise they may be making economically important mistakes. There is a role for behavioral economics in untangling the decisions behind consumer payment choices to shape public policies and give proper incentives.	Brought together two groups of payment experts – the private-sector payments industry and the academic, research and policymaking communities with a goal of fostering a constructive environment for sharing information, forming productive research collaborations and helping public policymakers
Jack Niu EVP, MBNA America  (2004)	Managing Risks in Consumer Credit Industry	Effective regulations and laws will provide a safeguard for the industry from systemic risk whereas sophisticate credit risk policy, strategies and tools will provide institutions and consumers with risk protections	Focused on managing credit risk in consumer credit industry; underwriting risk and portfolio risk and illustrated it with different scenarios and demonstrated the reasons behind both successful and failed stories in managing different types of risk
David McKenzie Ernesto Schargrodsky  (2004)	Buying Less, But Shopping More: Changes in Consumption Patterns During a Crisis	Consumer react in part to crisis by changing shopping behavior, they shop more, bought less and reduces the quality of goods purchased during the crisis	The studies lead to several implications for the measurement of impact of the economic shocks along with poverty lines. Provides the magnitude of the effect of increase in frequency of shopping and purchase of lower quality goods as a substitute to buy more goods.
Richard Portes  (1998)	An analysis of Financial Crisis: Lessons for the International Financial System	Responses to the international financial crisis of 1997-98 have brought proposals to expand the range of IMF's responsibilities and activities as the existing set is already conflictual and dysfunctional.	All crises are not the same and examines the features which differentiates them, types of crises and ways to handle the problems, objections and obstacles to the framework constructed It also highlight the multiple inconsistent roles of IMF
Jeffrey Frankel Harvard University  (2007)	Responding to Financial Crisis	Lessons learned include monetary policy needs to be proactive with respect to Inflation crisis, obvious danger of moral hazard; to seek to discourage the bubble ahead of time then to wait until it burst to mop up for preempting of Securities market crisis. International crisis such as oils price shocks were not weathered in better and Emerging market crisis cannot be handled by bailouts.	Examines inflation crisis, Securities market crisis, International crisis, Emerging Market crisis, Global recession, illiberal economic policies and consider other possible adverse developments which could potentially precipitate of exacerbate recession.

<b>Source/Author (Date)</b>	<b>Title/Topic</b>	<b>Findings</b>	<b>Contributions</b>
Ephraim Leibtag Economic Research Service – USDA  (2007)	Where and How: Low-Income Consumer Food Shopping Behavior	Low-income households economize on food by buying some products on sale and less expensive varieties of meats, fruits and vegetables. White, middle-income households with college education are more prone to redeem coupons	Food shopping behavior is determined by differences in demographics and socioeconomic factors. It also analyses the difference between the metro and non-metro households purchase behavior.
Hildegart A Ahumada Maria Lorena Garegnani  (2004)	Learning About Consumer Behavior in Face of a Structural Break: Argentina after 2002	Critical “break point” for consumer decisions in Argentina was found following two main approaches to empirically model consumption decisions : a solved out consumption function approach and an Euler Equation-GMM approach	The liquidity constraints and hyperbolic discount are the main features that characterize Argentina consumption pattern after 2002 break which implies a financial collapse led to private sector insolvency
Micheal Haliassos Christis Hassapis  (1998)	Borrowing Constraints, Portfolio Choice and Precautionary Motives: Theoretical Predictions and Empirical Complications	Findings help explain the failure of recent empirical studies to uncover sizable precautionary effects on wealth and on portfolio composition. The models calibrated indicated that constrained households engage in less borrowing and less holding of risky assets than desired borne out of income-based constraints but not necessary for constraints where assets are also served as collateral.	Borrowing constraints, either income-related or asset-based can have substantial influence on household saving, portfolio choice and on the size and direction of precautionary effects.
Masahiro Kawai Richard Newfarmer Sergio Schmukler  (2001)	Crisis and Contagion in East Asia : Nine Lessons	Direct consequences of capital account liberalization, financial globalization, domestic imbalances and weaknesses to policy responses	Investigated the root cause of the Asian crisis and its contagion via different channels and recommends alternative policy to prevent and manage future crisis and contagion
Sebastian Strasek Timotej Jagric Natasa Specs  (2007)	Emerging Crises : Lessons from the 1990’s	Growing vulnerability in emerging market economies can be attributed to the surge in the capital inflows and private investment. The financial crisis of 1990s undoubtedly involved several interlinked phenomena and left a whole list of lessons to be learned from it	Authors gave their views on policies to be considered to manage financial crisis and reduce the risk associated with them
W. Max Corden  (2007)	The Asian Crisis: a Perspective after Ten Years	Four principal countries’ causes and policy responses were reviewed and found that there was a prolonged investment boom which ended in “hard landing” was neither inevitable nor predictable.	There was a clear relationship between severity of the exchange rate crises and the short-term foreign borrowing that was denominated in foreign currency usually dollar and unhedged.

## Other References

Consumer Spending worries send Dow Lower

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