

**AN ECONOMIC ANALYSIS OF COST OF LIVING  
AND BASIC NEEDS BUDGET IN MALAYSIA**

by

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**Thesis submitted in fulfillment of the requirements  
for the degree of  
Doctor Philosophy**

**August 2017**

## ACKNOWLEDGEMENT

*In the name of Allah, the Most Gracious, the Most Merciful*

All praise to Allah, Lord of the worlds. May the peace and blessing of Allah be upon His Prophet Muhammad SAW and the family of Muhammad. Amin. First, I would like to express my gratitude and appreciation to my supervisor, Dr. Che Normee Che Sab (retired), Associate Professor Dr. Zakaria Bahari and Dr. Nor Asmat Ismail for their commitment, guidance, suggestions, observations and persistent support throughout the writing of this thesis as a Ph.D dissertation. May Allah reward them a good health, goodness in this world and hereafter. Amin.

I would also like to express my gratitude to:

1. Malaysia Ministry of Education, Putrajaya.
2. Educational Planning and Research Division (EPRD), Putrajaya.
3. State Education Department of Penang, Wilayah Persekutuan Kuala Lumpur and Johor.
4. District Education Office of Bangsar-Pudu, Johor Bahru and Timur Laut.
5. Department of Statistics, Putrajaya.
6. Institut Latihan Statistik Malaysia, Sungkai, Perak.
7. Economic Planning Unit, Prime Minister Department, Putrajaya.
8. Headmaster / Principal of primary and secondary schools in George Town, Penang, Bangsar-Pudu, Kuala Lumpur and Johor Bahru. Johor.

May Allah reward all of them for their help, kindness and support. Amin.

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## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AGC	Attorney General Chambers
BNB	Basic Needs Budget
BNM	Bank Negara Malaysia
COL	Cost of Living
CPI	Consumer Price Index
DO	Degree of Openness
EPU	Economic Planning Unit
FAFH	Food Away from Home
GDP	Gross Domestic Product
GS	Government Subsidy
HE	Housing and Electricity
HES	Household Expenditure Survey
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
JFO	Joint Fiscal Office
KRI	Khazanah Research Institute
MCMC	Malaysia Communication and Multimedia Commissioner
MOE	Ministry of Education

MOF	Ministry of Finance
MQLI	Malaysia Quality of Life Index
MRS	Marginal Rate of Substitution
MYR / RM	Malaysian Ringgit / Ringgit Malaysia
NAPIC	National Property Information Centre
ONS	Office for National Statistics (United Kingdom)
OWP	One-Working Parent
PD	Population Density
PG	Population Growth
RGDP	Real Gross Domestic Product
REXRI	Real Exchange Rate Index
SA	Single-Adults
SOL	Standard of Living
TWO	Two-Working Parent
UR	Unemployment Rate
USC	The United States Congress
Vegtab.	Vegetables

# **ANALISIS EKONOMI KOS SARA HIDUP DAN BELANJAWAN KEPERLUAN ASAS DI MALAYSIA**

## **ABSTRAK**

Kajian ini telah mengenal pasti faktor-faktor yang mempengaruhi kos sara hidup dan keperluan belanjawan asas bagi kumpulan pendapatan menengah di tiga buah bandar terpilih di Malaysia. Keputusan kajian kointegrasi Bounds ARDL menunjukkan terdapat hubungan jangka panjang antara kos sara hidup dengan pembolehubah tak bersandar seperti keluaran dalam negara kasar per kapita, pertumbuhan penduduk, kadar pengangguran dan darjah keterbukaan di Malaysia. Manakala pembolehubah indeks kadar pertukaran asing benar dan subsidi kerajaan tidak signifikan dalam analisis ini. Selain itu, keputusan ujian sebab-akibat Granger membuktikan terdapat hubungan satu arah antara kos sara hidup dengan taraf hidup di Malaysia. Kajian juga mendapati terdapat perbezaan di antara indek belanjawan keperluan asas dengan indek kos sara hidup di Malaysia pada tahun 2014 sebanyak 0.1 point. Manakala, kajian ini juga mendapati kos sara hidup bagi bujang dewasa ialah RM2,908.88 sebulan, RM5,026.72 sebulan bagi salah seorang ibu bapa bekerja dan RM5,215.27 sebulan bagi kedua-dua ibu bapa bekerja. Di samping itu, kajian juga menunjukkan jumlah pendapatan, saiz keluarga, umur ketua isi rumah, nisbah jantina, bilangan bilik, kos penggunaan barangan elektrik, langganan jalur lebar dan bilangan kenderaan merupakan faktor yang signifikan mempengaruhi belanjawan keperluan asas bagi kumpulan pendapatan menengah di tiga buah bandar di Malaysia. Berdasarkan keputusan kajian empirikal ini, pertumbuhan keluaran dalam negara kasar yang stabil dan konsisten diperlukan, dan kerajaan juga disarankan untuk mengawal pengaliran keluar Ringgit Malaysia yang menyumbang kepada penurunan

kuasa beli isi rumah. Meningkatkan pendapatan boleh guna kumpulan pendapatan menengah dengan meningkatkan kadar pemberian elaun kos sara hidup atau semakan semula skim gaji kakitangan awam adalah sangat dicadangkan. Pihak kerajaan dan swasta harus memperkasakan kerjasama dalam menyediakan barang dan perkhidmatan pada harga rendah dan mampu milik dengan memfokuskan kepada meregulasi harga rumah serta mengawal kadar sewa rumah di pusat bandar. Selain itu, memperkasakan sektor pertanian, kawalan dan penguatkuasaan harga kawalan dengan lebih efisien, memperbaiki sistem penyampaian subsidi turut mampu meminimalkan perbelanjaan isi rumah dan kos sara hidup. Akhir sekali, pelarasan ke atas wajaran indeks harga pengguna perlu dilakukan dan memperkenalkan komponen baru iaitu penjagaan kanak-kanak.

# **AN ECONOMIC ANALYSIS OF COST OF LIVING AND BASIC NEEDS**

## **BUDGET IN MALAYSIA**

### **ABSTRACT**

The study has investigated the main factors influencing the cost of living and basic needs budget of middle income in three selected capital cities in Malaysia. The ARDL Bounds test results show that there is a long-run relationship between the cost of living and explanatory variables such as gross domestic product per capita, population growth, unemployment rate and degree of openness in Malaysia. Moreover, the real exchange rate index and government subsidy variable statistically not significant in this analysis. Other than that, the Granger causality test indicates that there is an evidence of unidirectional Granger causality between cost of living and standard of living in Malaysia. The study also found out that there is a difference between the basic needs budget index and cost of living index in Malaysia for the year 2014 by 0.1 point. Besides, the average cost of living a month for single-adult is RM2,908.88 a month, RM5,026.72 a month for one-working parent, and RM5,215.27 a month for two-working parents. Moreover, the study also shows that the household income, family size, the age of head household, sex ratio, the number of rooms, electrical appliance usage costs, broadband subscribers and number of private cars are the significant factors influencing the basic needs budget of the middle income earners in the three capital cities in Malaysia. Based on empirical results, the stability and consistency of gross domestic product growth are needed, and the government also advised to control the outflows of Ringgit Malaysia that contributed to the deterioration of purchasing power of households. Increase the disposable income of middle income group by increased the amount of cost of living allowances or revise the

civil servant's salary scheme is highly suggested. The government and private sector must enhance their cooperation in order to provide goods and services at lower prices and practically affordable by focusing on housing price regulation as well as controlling the housing price in the capital cities. Moreover, to enhance the agricultural sector, monitoring and enforcement of price efficiently, upgrade subsidy delivery system which able to minimize the household expenditure and cost of living. Lastly, adjustment to the consumer price index weighted must be done and introduce a new component such as child care.

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

The cost of living in Malaysia has become an important subject of conversation and public discourse, especially during the presentation of the national budget each year. Whether a person lives in urban or rural areas, the problems associated with the rising cost of living are often discussed by people, old and young, medium and low income groups and regardless of gender. The standard of living in Malaysia has risen since the 1990s based on two indicators, namely the Malaysia Quality of Life Index or MQLI (EPU, 2012) and the Gross Domestic Product (GDP). With higher cost of living, people tend to maintain their standard of living and enjoy the same utility by consuming the same quantity of goods and services as previously. However, to achieve the same or even a higher standard of living as before requires a commensurate increase in wage rates in order to minimize the impact of rising cost of living.

To become a developed nation, Malaysia needs to be consistent in order to counter the rising cost of living of the people. Uncontrolled increase in the cost of living can cause urban poverty and crime rates to rise. Positive economic growth at the macro level should be aligned and translated with an increased in the household purchasing power or household capabilities to meet their basic needs expenditure, especially in terms of housing affordability, education and others. The implementation and success of the National Transformation 2050 (TN50) depend entirely on the cost of living in Malaysia.

Studies on the cost of living also can help to make Malaysia more competitive globally. With the stability of the cost of living, this will be able to attract more foreign investors to invest and do business in Malaysia. Indirectly, this will help the enhancement of other local industry such as education, tourism and more, as well as creating more opportunities in various fields. To get a competitive and stable cost of living, there is a question of what are the factors influencing that place a pressure on the rising cost of living and basic needs budget in Malaysia? How much for the middle income earners group needed to sustain or maintain their standard of living as previously, especially for those who live in a capital city that have a high cost of living?

The following section 1.2 and 1.3 will explain the background of the study and the problem statement. The research questions and objectives of this study are presented in sections 1.4 and 1.5, respectively. Section 1.6 and 1.7 will elaborate the significance and scope of the study followed by the operational definition in section 1.8. Lastly, the organization of this study is laid out in section 1.9.

## **1.2 Background of Study**

The GDP on average in Malaysia shows a positive growth since the 1960s and enjoyed the best economic growth in the first half of the 1990s but there were no issues regarding the high cost of living has been discussed. The GDP growth in Malaysia showed an upward trend from 1963 to 2013, except in 1987, 1997 and 2008 due to the instability of the world economy and Asian financial crisis. The introduction of New Economic Policy (NEP) in 1970 had tried to unify by highlighting the two-pronged strategy of eradicating poverty and restructuring the society. In 1979, the median gross household income for

Malays is RM338 a month, RM656 for Chinese and RM521 for Indians. Meanwhile, Johor, Malacca, Penang and Selangor have the highest monthly median household income with RM518, RM528, RM534 and RM647, respectively (Department of Statistic, 1986). At this period of time, the Chinese standard of living is better than Malays and Indians because of the economic gap between races are widening and Selangor was the most expensive state to live in. With the NEP, the government has put efforts to enhance the status of income and standard of living through education, training, health and so on.

By experiencing a high economic growth in 10 years between the period of 1988 to 1997, Malaysia is known as one of the "Asian Tigers". The average GDP per capita in the year 1990 to 1999 is RM10,172, with 3.7 per cent unemployment rate in 1991 and declined to 3.4 per cent in 1999 (Department of Statistic, 2013; author's calculations) has led to higher standards of living in the country. The ability of Malaysia to overcome the financial crisis in 1997 to 1998 has shown the capabilities of Malaysian economy to remain competitive towards becoming a developed nation. At the end of the year 2013, Malaysia GDP per capita has increased to RM30,803 with nominal GDP of RM902.84 billion (Department of Statistic, 2013). High economic growth and lower unemployment rate imply that the rise in the cost of living of Malaysians people.

In the first 14 years of the 21<sup>st</sup> century, the issue regarding high cost of living has become a debate and was discussed around in Malaysia. The rising cost of living and presence of the urban poor as a result of insufficient income to meet their basic needs budget particularly for those who live in the capital cities has been discussed. Are the higher GDP and lower unemployment rate lead to a higher cost of living in Malaysia? According to Collet and Bonar (1891), an increase in the cost of living without an increase in wages

will result in the downgrades of the standard of living. The rising cost of living should be accompanied by an increasing wage at the same percentage rate because the change in the cost of living is a key factor in determining wages and will cause the standard of living to be maintained<sup>1</sup> or increased. If the cost of living decreases, then wages should not be down by more than the decline in prices (Ogburn, 1919).

With the cost of living rising more rapidly than the increase in the wage rates, the cost of basic necessities rising slightly more than income and inflation as measured by the Consumer Price Index or CPI (Renwick, 1998; Church, 2015) at the household level, and this will create urban poverty<sup>2</sup> phenomenon for new graduates and fresh workers. For example, those who live in the capital cities in which their income cannot even cover their basic needs expenditure due to the high cost of living. With a salary and fixed allowances including cost of living allowances (COLA) totaling RM2,817<sup>3</sup> a month for fresh graduates or typical single-adult households working in the education sector and living in an urban area, each month they have to allocate of RM887 for housing and electricity, RM126 on transport, RM310 for food and non-alcoholic beverages, RM163 for recreation services and culture, RM362 for restaurants and hotels that include food away from home; and RM167 for miscellaneous goods and services. The mean monthly household consumption expenditure for a single-adult household living in an urban area in Malaysia is RM2,617 in 2014 (Department of Statistics, 2015c) as shown in Table 1.1.

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<sup>1</sup> An increase in the cost of living will be offset by an increase in wage rates (Ogburn, 1919).

<sup>2</sup> As a result of the distortion in purchasing power and inadequate income to sustain their basic needs. According to ADB (2014), urban poverty is complex and multidimensional and is defined as extending beyond the deficiency of income or consumption, where it relates to the inadequate access to land and housing, physical infrastructure and services, economic and livelihood sources, health and education facilities, social security networks, and voice and empowerment.

<sup>3</sup> This is the sum of basic salary (RM1,917), fixed housing allowance (RM300), public services allowance (RM300) and cost of living allowance (RM300) in area A (Department of Civil Services, 2014; 2015).

**Table 1.1 Mean Monthly Household Consumption Expenditure in Malaysian Urban Areas, 2014 (RM)**

<b>Household Expenditure by Group</b>	<b>01</b>	<b>04</b>	<b>07</b>	<b>08</b>	<b>11</b>	<b>12</b>	<b>Others<sup>1</sup></b>	<b>Total</b>
Single-Adult	310	887	126	163	362	167	602	2 617
Bottom 40	538	477	253	84	231	128	316	2 027
Middle 40	728	793	548	196	471	262	631	3 629
High 20	905	1 742	1 099	400	913	577	1 263	6 899
Kuala Lumpur	703	1 665	690	316	846	370	969	5 559
Johor	709	888	654	241	476	298	734	4 000
Penang	591	925	432	190	497	321	603	3 559

**Source:** Department of Statistics (2015c).

**Notes:** 01 Food & non-alcoholic beverages; 04 Housing, water, electricity, gas & other fuels; 07 Transport; 08 Communication; 11 Restaurants and hotels; 12 Miscellaneous goods and services.

<sup>1</sup> Sum of Alcoholic beverages & tobacco (02); Clothing & footwear (03); Furnishings, household equipment & routine household maintenance (05); Health (06); Recreation services & culture (09); and Education (10).

After deducting all the fixed expenses and personal necessities, a single-adult household would probably have just about RM200 (RM2,817 – RM2,617) a month left to spend on other things. Usually, there is nothing left to be put aside or saved at the end of the month. With small monthly savings, the use of credit cards to meet one's basic needs has contributed to the rise in household debt. Thus, surviving on a tight budget with insufficient income is a real challenge for fresh graduates working and living in the capital city where costs are high and there are too many temptations unless they have deep pockets. For the middle 40 income group, they spend RM3,629 a month compared to the bottom 40 income group (RM2,027) and high 20 income group (RM6,899). Other than that, if someone lives in Kuala Lumpur, this person will spend around RM5,559 a month to maximize his or her utilities and to maintain the same standard of living compared to RM4,000 in Johor and RM3,559 in Penang.

The rising cost of living is also caused by the acceleration in housing prices to the extent that even the middle income households cannot afford to purchase a house (EPU, 2015b; Raja Ariffin, Zahari and Tumin, 2015). However, households can choose what are their main priority either to buy a car first and later a house for some working single-adult

households. In the worst case scenario, they could sleep in a car for several months. For a reasonably-priced house, they have to look further away from the capital cities, and that would mean that he or she would incur a higher cost for transport. The government's action by cutting the amount of subsidy and increase the petrol price also contributes to the rising cost of living in Malaysia. This will cause the purchasing power of households to decrease due to the shortage of disposable income.

The government has an expectation to fill in the gap of households' income and basic needs that are caused by the rising cost of living in Malaysia by implementing the minimum wage system and COLA to the civil servants. In January 2013, the government has enforced the minimum wage of RM900 per month or RM4.33 per hour for Peninsular Malaysia and RM850 per month or RM3.85 per hour for Sabah and Sarawak (EPU, 2010). The implementation of the minimum wage requires continuous enforcement and the financial ability of small companies to survive in the market. From different perspective, for those working in the public sector, they are entitled to enjoy the COLA, RM300 per month for area A (Kuala Lumpur, Penang, Selangor, Johor Bahru), RM150 per month for area C (Sabah and Sarawak) and RM250 per month for other states or area B (Department of Civil Services, 2014). Other than that, the gap between the total household income and basic needs budget can be accommodated by the government through the social programs such as the '*Bantuan Rakyat 1 Malaysia*' or BR1M<sup>4</sup> but the target of the recipient of BRIM is relying on income data regardless of factors that push the household expenditure to increase. There are households that suffered from deficit expenditure for certain months,

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<sup>4</sup> BR1M is implemented as a one-off payment to help fill the gap, but BRIM is a short-term program or a once a year hand out.

while some households enjoyed surplus expenditure. However, both of these households also received the same benefits from the BR1M program. Furthermore, due to a large population, it would promote a competition in the market and increase the production for export as well as economies of scale which directly affect the cost of living through the fluctuation of the price of goods and services in the market. In the year 2012, the total population of Malaysia was 29.337 million, with 1.6 per cent annual growth and 89 persons per square kilometer (Ministry of Finance, 2013).

As the cost of living continues to rise and salaries struggle to catch up, as well as housing prices varying widely between Malaysian states and a larger middle-class population<sup>5</sup>, Malaysia's middle class may be shrinking one by a thread and some may even fall off into urban poverty due to a stagnant median salary, where their income are insufficient to cover their basic needs expenditure in the capital cities. At this level, being a middle class today does not mean anything and they fight and struggle for the cost of surviving rather than cost of living.

The middle income group (or M40 in Malaysia) need to pay various taxes such as the personal income tax, goods and services tax, local government tax, road tax for vehicles and others. Middle income earners also need to pay for a number of services to maintain their standard of living and require higher cost such as housing insurance, vehicle insurance, building maintenance and repair, access to utilities, communication and others.

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<sup>5</sup> With a larger population, this would promote competition in the market and increase production for export as well as economies of scale. Malaysia is among the five developing countries that have a higher percentage of the population in the middle class, which is 89.28 per cent or 22.49 million of the population (ADB, 2010).

For example, the middle and low income groups with monthly earnings of RM2,500 will pay 3.07 per cent of their income as goods and services tax or GST (Lim and Ooi, 2013).

More on, the large group that caught in the affordable housing trap is the middle income group. It is difficult to own a house when the housing prices continue to rise, housing loans approvals are getting stricter and less choices are available for the middle income group (Baqutaya, Ariffin and Raji, 2016). According to Baqutayan (2014), the housing price-to-income ratio is more than 30 per cent of the household income. With the GST added into their bills, the middle income earners are worried about the erosion of their purchasing power, as there will be an increase of at least 4 per cent in prices across the board for the end consumers (Palil and Ibrahim, 2011). Some middle income earners may also suffer from deficits in their budgets. More (1913) indicated that the normal wage-earner's family spent every cent of its income, nothing has been saved and no allowance has been made for any exceptional expenses such as continued illness and long periods of unemployment.

In conclusion, Malaysia's GDP per capita at current prices was RM6,578 in the year 2000 and rose to RM32,948 in the year 2013. The Gini coefficient continued to narrow down from 0.449 in year 2000 to 0.441 in the year 2009 (EPU, 2012; 2015a). Within a period of 52 years, Malaysia has been able to become a developing country with a sustainable economic growth. A consistent economic growth, rising per capita income, lower unemployment rate, the inclusion of new technologies, an increase in the number of population and density, higher level of education held by the employee, increase in the MQLI and several other indicators have shown an improvement of standards of living, as well as the cost of living in Malaysia.

Therefore, what are the factors influencing the rising cost of living and had push household expenditure on basic needs to increase in Malaysia especially for the middle income group who live in the capital city? How much income that these middle income earners need to sustain or maintain their standard of living as previously? Thus, the main goal of this study is to identify the factors influencing the cost of living and basic needs budget in Malaysia.

### **1.3 Problem Statement**

In the first 14 years of the 21<sup>st</sup> century, Malaysia's economic growth continues to escalate and suffer from the high cost of living. With a positive trend of GDP growth and other macro indicators, the rising cost of living in Malaysia had worsened the standard of living. The rationalization by cutting the amount of subsidy particularly for petrol price and the introduction of GST has led to an increase in the cost of living. More on, at the household level, the cost of basic necessities rising slightly more than income. This causes most of the households especially for those living in the capital cities facing a shortage or insufficient income in order to meet their basic needs. Inadequate of salaries, a higher number of dependents and family members, rising prices of goods and services, housing prices and rental rates become more expensive as well as other factors causing the financial burden on middle income earners especially for those who live in the capital cities. Other than that, the cost of living and standard of living are two elements that have a strong and causal relationship but no economic theories have proved it. In order to minimize or counter the rising cost of living, there is a need to know the behavior of these two indicators, either the cost of living which caused the standard of living to change or vice versa. The differences in the cost of living and household expenditure in Malaysia

may have caused the discrepancy in the standards of living between Malaysian states, urban and rural areas. Given the higher and rising cost of living in the capital cities over time, it has become increasingly difficult for the middle income households in the capital cities to accommodate their basic needs budget and maintain a modest or the same standard of living as before. For the middle income group with relatively limited purchasing power, they will feel the effects of the rising cost of living and some of them may also suffer from deficits in their budgets. Thus, it is important to know the factors influencing the cost of living and basic needs budget at the household level. By doing this research, a good policy with a good solution will be suggested.

#### **1.4 Research Questions**

This study will try to answer the following questions:

1. What are the main factors influencing the cost of living in Malaysia?
2. Does the cost of living Granger cause the standard of living in Malaysia?
3. Are there any differences between the cost of living index and basic needs budget index in Malaysia?
4. What is the cost of living based on the household expenditure of the middle income earners on basic needs in selected capital cities in Malaysia?
5. What are the main factors influencing the basic needs budgets for the middle income earners in the capital cities in Malaysia?

#### **1.5 Objectives of the Study**

The general objective of this study is to investigate the main factors influencing the cost of living and basic needs budget, and to examine how the selected socio-economic

indicators influence the cost of living and basic needs budget of middle income earners in selected capital cities in Malaysia. The specific objectives of this study are as follows:

1. To identify the factors influencing the cost of living in Malaysia.
2. To investigate whether the cost of living Granger causes the standard of living in Malaysia.
3. To calculate and determine whether there are any differences between the cost of living index and basic needs budget index in Malaysia.
4. To estimate the cost of living based on household expenditure of the middle income earners on basic needs in selected capital cities in Malaysia.
5. To identify the factors influencing the basic needs budgets of the middle income earners in the capital cities in Malaysia.

**Table 1.2 Summary of Research Questions, Objectives and Tools of Analysis**

<b>Research Questions</b>	<b>Objective</b>	<b>Tools of Analysis</b>
1. What are the main factors influencing the cost of living in Malaysia?	To identify the factors influencing the cost of living in Malaysia.	OLS Regression -ARDL
2. Does the standard of living Granger cause the cost of living in Malaysia?	To investigate whether the standard of living Granger causes the cost of living in Malaysia.	Granger Causality -Toda Yamamoto
3. Are there any differences between the cost of living index and basic needs budget index in Malaysia?	To calculate and determine whether there are any differences between the cost of living index and basic needs budget index in Malaysia.	Weighted Index Number -Family Budget Method
4. What is the cost of living based on household expenditure of middle income earners on basic needs in selected capital cities in Malaysia?	To estimate the cost of living based on household expenditure of the middle income earners on basic needs in selected capital cities in Malaysia.	Descriptive Analysis -Family Budget Survey -Income Statement
5. What are the main factors influencing the basic needs budgets of middle income earners in the capital cities in Malaysia?	To identify the factors influencing the basic needs budgets of middle income earners in the capital cities in Malaysia.	OLS Regression

## **1.6 Significance of the Study**

One of the important contributions of this study is to contribute to the body of literature on the cost of living and basic needs budget in Malaysia since there are no clear guidelines that address the question of the rising cost of living problem in an academic way. In other words, the findings of this study can form the basis of other studies in the near future and may serve as a guideline for policy makers in tackling issues related to the cost of living. It is hoped that this study will become one of the basic references for future studies to be carried out on various aspects of the cost of living and basic needs budget.

The study may also guide the government agencies and non-government organizations (NGO) on how to estimate the cost of living and basic needs budget in Malaysia. At the present time, there are no clear guidelines on how to estimate and tackle the problem of the rising cost of living in Malaysia from an academic perspective, although a lot of research has been done in the developed and western countries as well as several Asian countries.

This research will provide some recommendations to the policy makers and the government about what steps and measures that need to be taken to offset the effect of the rising cost of living in Malaysia. Through the findings of this study, it will guide the policy makers as well as the government to develop appropriate strategies and policies to overcome or minimize the rising cost of living in Malaysia.

Furthermore, this research can be the basis for determining adjustments in the quantum of the COLA and wage rates. By knowing the real income and how much the working families must earn to accommodate meet their basic needs, this will able to determine how

much wages should increase or adjustment in the cost of living allowance is required in order to offset or minimize the effects of the rising cost of living. The government can also play a significant role to minimize the impact of the rising cost of living and maintain the standard of living of citizens as before by providing more social programmes. Lastly, this research will also be able to shed light on the actual basic needs budget of middle income households by using teachers as a proxy for middle income earners in three different cities that have a high cost of living.

### **1.7 Scope of the Study**

The study utilized time series data and cross-sectional data. For the first part of this research, there were three different sets of time series data. The first set consisted of annual data from 1980 to 2014. Secondly, the data set consisted of monthly data from January 2010 to December 2014, to identify any significant differences in the cost of living between the Malaysian states. Thirdly, the annual set data from period 1990 to 2012 in order to investigate whether the cost of living Granger causes the standard of living in Malaysia.

The second part of the study on the basic needs budgets used Household Expenditure Survey (HES) data that published by the Department of Statistics (2015c) in order to calculate the basic needs budget index in the year 2014. Moreover, the primary data were obtained by conducting a survey in three different cities in Malaysia that have a high cost of living, namely Kuala Lumpur, Johor Bahru and George Town. In the basic needs budget study, teachers were used as a proxy and benchmark for the middle income earners.

This study only identified the factors influencing the cost of living and the basic needs budget of middle income households in Malaysia. For that, the middle income group is defined as those individuals earning between RM2,992.50 to RM8,999 a month<sup>6</sup> for a single person. Apart from that, the basic needs in the basic needs budget study consist of 5 different groups of household expenditure, which is expenditure on food and non-alcoholic beverages, expenditure on housing, water, electricity, gas and other fuels, expenditure on transportation, expenditure on communication and expenditure on child care and education.

## **1.8 The Operational Definition**

### **1.8.1 The Standard of Living**

The standard of living measures the quality of life or the level of material prosperity enjoyed by individuals (BNM, 2015). The quality of life is defined as encompassing personal advancements, a healthy lifestyle, access and freedom to pursue knowledge and attaining a standard of living which surpasses the fulfilment of the basic and psychological needs of an individual, as well as to achieve a level of social well-being compatible with the nation's aspirations (EPU, 2012). In Malaysia and for this study, the MQLI<sup>7</sup> is used as a proxy for the standard of living.

### **1.8.2 The Cost of Living**

The cost of living is the cost required to maintain some minimum basic standard of living at a point in time. It is also known as the cost of buying sufficient quantities of various

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<sup>6</sup> Please refer to section 2.6.3 for middle income group range income decision and calculation in details.

<sup>7</sup> Today, the MQLI is known as the Malaysia Well-Being Index (MWBI).

items to maintain some minimum standard of living (ONS, 2014). According to the Office for National Statistics (ONS) in the United Kingdom, the economic definition of the cost of living is the minimum cost at this month's prices to achieve the actual level of utility attained in the base period. Instead, Boskin (2008) interpreted the cost of living as how much more income would consumers need to be just as well-off with a new set of prices as the old. Other than that, Bank Negara Malaysia (2015) defines the cost of living as the amount of expenditure on goods and services incurred by households including their financial obligations, to maintain a certain standard of living.

### **1.8.3 The Basic Needs Budget**

The basic needs budget<sup>8</sup> is the expenditure needed to achieve a given utility with limited income (Nicholson and Synder, 2008) in order to maintain a safe and decent standard of living (Rosewater, 1921; Diamond, 1990; Flanagan and Flanagan, 2011; Chien and Mistry, 2013). According to Allegretto (2006), the basic needs budget refers to the ability of families to meet their most basic needs with an amount of their current level of income. The basic needs budget is always used to answer the question of how much the working families must earn in order to meet their basic needs (Fisher and French, 2014). In this study, 5 groups of household expenditure to represent the basic needs of households<sup>9</sup> have been chosen, namely expenditure on (1) food, (2) housing, water, electricity, gas and other fuels, (3) transport, (4) communication, and (5) child care and education<sup>10</sup> (Renwick, 1998; Allegretto, 2006; Fisher and French, 2014).

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<sup>8</sup> Also known as the family budget or exert budget in the American literature and budget standard in Britain and Australia (Fisher, 2012).

<sup>9</sup> Group expenditure is based on 12 types of household expenditure contained in the CPI.

<sup>10</sup> Education expenditure group in Malaysia does not include child care expenditure.

#### **1.8.4 The Middle Income Group**

There is no standard definition for the middle class but most economists define middle income in terms of the income or consumption level. For the purpose of this study, the middle income group is defined as those individuals whose income are between 75 per cent and 125 per cent of the society's median per capita income (Birdsall, Graham and Pettinato, 2000). This study used employees in the education services sector or teachers in the civil service as the sample and benchmark to represent the middle income group in Malaysia.

#### **1.8.5 Type of Family**

The basic needs budget study will be carried out on three types of families, which are single-adult households and two-parent families with one-working and two-working parent families as has been done by Renwick (1998) and Fisher and French (2014). A single-adult household can be interpreted as a single person or bachelor, who is not in a relationship or is unmarried and above 18 years old. Lastly, two-parent families are families where both parents are working, or families with one parent working and one parent at home caring for the children. With an assumption of the two-parent families in this study have either one child or two children for child care cost. Follow Fisher and French (2014) definition, one child is a child between the ages of 1 to 3 years, and two children are families who have one child aged 1 to 3 years, and another child aged 6 to 18 years.

## **1.9 Organization of the Study**

The study is divided into five chapters. Chapter 1 provides an introduction to the research topic, background of the study, problem statement, research objectives, as well as the significance and scope of the study, operational definition and organization of the study. Chapter 2 reviews the theoretical framework, literature and the empirical studies on the cost of living and basic needs budget, gaps in the literature and the conceptual of the study. Meanwhile, chapter 3 discusses the methodology. In this chapter, the definition of the dependent and independent variables, hypotheses of the study, the descriptive statistics and the econometric tools of analysis are presented. Chapter 4 presents and discusses the empirical results of this study. The last chapter, chapter 5, will give a summary of the findings as well as the novelty of this research, policy implications, limitations of the study, suggestions for future research and conclusion.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introductions

This chapter is divided into two main parts. First, the chapter begins with the introduction and introduces the theoretical background pertaining to the cost of living. The theory of consumer choice and household expenditure is discussed. Secondly, the next two sections present a review of the empirical studies of the cost of living and basic needs budget, respectively. In the conclusion of this chapter, the gaps found in the previously existing literature are highlighted and discussed in section 2.5, followed by the conceptual in section 2.6. Section 2.7 concludes this chapter.

#### 2.2 Theoretical Framework

##### 2.2.1 The Household Cost of Living Index

The household cost of living can be explained through the utility function. We assume that the consumer maximizes his or her utility function subject to a budget constraint. The utility function ( $u = f(x)$ ) is the utility level or standard of living that can be attained if the individual consumes a given quantity of set of goods  $x$ , where:

$$x \equiv (x_1, x_2, \dots, x_n) \tag{2.1}$$

At this stage, the consumer attempts to minimize the cost of achieving a given utility level (Diewert, 1983). To minimize the cost of achieving a given utility level, the consumer will choose the utility that is consistent with his or her budget constraint, where:

$$p \cdot x = \sum_{n=1}^N p_n x_n \leq y \quad (2.2)$$

where

$p \gg 0_N$  = a positive vector of  $N$  commodity prices

$y > 0$  = expenditure on the  $N$  commodities

When the consumer attempts to minimize the cost of achieving a given utility level, it defines the consumer's cost function,  $C$ : for  $u \geq 0, p \gg 0_N$ :

$$C(u, p) \equiv \min_x (p \cdot x : F(x) \geq u, x \geq 0_N) \quad (2.3)$$

From equation (2.3),  $F(x)$  satisfies the given utility, and  $C(u, p)$  will satisfy the minimal utility level. Therefore, the  $C(u, p)$  stems may be used to define the Konüs cost of living

index,  $P_K$ : for  $p^0 \gg 0_N, p^1 \gg 0_N$  and  $u > 0$  defined as:

$$P_K(p^0, p^1, u) \equiv \frac{C(u, p^1)}{C(u, p^0)} \quad (2.4)$$

where:

$p^0$  = a vector of prices in period 0 or base period

$p^1$  = a vector of prices in period 1 or current period

$u$  = a number that indexes the reference indifference surface

$P_K(p^0, p^1, u)$  is the minimum cost of achieving the standard of living indexed by  $u$  at period 1 prices,  $p^1$ , relative to the minimum cost of achieving the same standard of living at period 0 prices or  $p^0$ . Fisher has categorized the Konüs index as a superlative index (Boonkitticharoen, 1970). The Konüs index assumes that the cost function holds across the time where people get the same amount of utility or maintain the same standard of

living as the previous year and that leads to a true cost of living index. But the Konüs index only serves as a theoretical idea and is not a practical price index compared to the Laspeyres price index.

### 2.2.2 The Cost of Living Index

The theory of the cost of living index originated in the 1920s with Konüs and showed that the Laspeyres index is in common use to measure the cost of living (Triplett, 2001). According to Konüs (1939), Boonkitticharoen (1970) and Triplett (2001), a true cost of living index is where the satisfaction of the family or the standard of living<sup>11</sup> of that family remains constant. Konüs (1939) indicates that between the standard of living of consumers in the base period and given period there always exists some standard, for which the true index of the cost of living falls in between the budgetary indexes. One of the common methods of obtaining the cost of living index is based on the Laspeyres price index. Boonkitticharoen (1970), Banerjee (1975), Gillingham and Greenlees (1987), and Primont (2000) indicated that the true cost of living lies within the limits of the Laspeyres index and Paasche index:

$$L > I > P \quad (2.5)$$

where:

$L$  = Laspeyres index

$I$  = true cost of living index

$P$  = Paasche index

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<sup>11</sup> Consumption of given quantities of consumer goods defines the general state of want-satisfaction (Konüs, 1939).