A Descriptive Analysis on the Basic Needs Budget by the Middle Income Earners to Identify the Most Expensive City to Live: An Analysis Involving Capital Cities in Malaysia

Rusli Latimaha[1*]
Zakaria Bahari[1]
Nor Asmat Ismail[1]

[1]*School of Social Sciences, Universiti Sains Malaysia*

Abstract

This paper estimated the basic needs budget of middle income earners in the three capital cities in Malaysia. Three states with high cost of living have been chosen by running analysis of variance, namely Penang, Kuala Lumpur and Johor to represent the northern, central and southern regions, respectively. This study focused on 3 capital cities in selected states (George Town, Kuala Lumpur and Johor Baharu) and used teachers as a benchmark for the middle income group who earned from RM2,992.50 to RM8,999 in 2014. From descriptive analysis, the basic needs budget in the 3 capital cities ranges from US$1,090.52 to US$1,413.86 a month for one-working and two-working parent. Based on the analysis provided, single-adults household have to spend US$608.35 to US$696.74 a month for basic needs. The results also revealed that there is surplus income that range from US$257.77 to US$429.55 a month in the 3 capital cities for single-adult household. However, the result is a contra with one-working parent household where they suffer from budget deficits as much as US3.31 a month, and Johor Baharu face greater effect on the high cost of living. Meanwhile, two-working parent household manage to have surplus income after adding in their spouse income which ranges from US909.12 to US$1,223.03 a month. The descriptive analysis also revealed that the basic needs budget is allocated more towards housing and electricity, transportation and food in 3 capital cities in this study. Finally, we conclude that Johor Baharu capital city is the most expensive city to live, followed by Kuala Lumpur and George Town.

1 Introduction

The standard of living in Malaysia has risen since the 1990s followed by the high cost of living. Unfortunately, increase in the cost of living will decrease the standard of living. To maintain the standard of living before the increase in the cost of living

---

E-mail address: rusli780@yahoo.com

requires a commensurate increase in wage rates to offset the increase in the cost of living. According to Relative Income Hypothesis (RIH), the aggregate ratio of consumption to income is assumed to depend on the level of present income relative to past income and it is difficult to reduce the level of consumption once attained (Duesenberry, 1949). Study on the basic needs budget is more practical because it shows the daily price changes across a more limited number of items. With the cost of living rising more rapidly than the increase in the wage rates, the cost of basic necessities will be rising slightly more than income and inflation as measured by the consumer price index or CPI (Renwick, 1998; Church, 2015). For instances, with a salary and fixed allowances including cost of living allowances (COLA) totalling RM2,817 a month (Department of Civil Services Malaysia, 2014; 2015) for new or fresh graduates or typical single-adult households working in the education sector and living in an urban area, household expenses for each month are as follows: RM887 for housing, water, electricity, gas and other fuels; RM126 on transportation; 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 (Department of Statistics Malaysia, 2015c).

After deducting all the fixed expenses and personal necessities, a single-adult household would probably have just about RM200 left to spend on other things. Usually there is nothing left to be put aside or saved at the end of the month. With a small monthly savings, the use of credit cards to meet one's basic needs contributed to the rise in household debt and urban poverty. Thus, surviving on a tight budget is a real challenge for fresh graduates working and living in a big city where costs are high and temptations are many, unless they have deep pockets. Besides, a person whose age ranges from 24 to 34 years and living in an urban area spends approximately RM3,717 a month to fulfil his or her standard of living or maximize his or her utility. For middle income group, they have to spend RM3,629 a month, and 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 (Department of Statistics Malaysia, 2015c). With an income ranging from RM2,000 to RM4,999 a month and living in Kuala Lumpur, those who are in this income group might suffer from budget deficits, which will in turn create urban poverty phenomena because their income cannot accommodate their basic needs and they will not be able to maintain the same standard of living as before. Differences in household expenditures have also pointed to the existence of variations in the cost of living. There is always a question on how much income should be earned to cover the cost of living, particularly for the middle income earners and those living in big cities and how much the working family must earn to meet their basic needs (Fisher & French, 2014). Therefore, the objective of this paper was to estimate the basic needs budget among middle income earners at 3 capital cities in Malaysia.

2   Theoretical Background

The basic needs budget become an important topic to be discussed and have a significant relationship with the phenomena of urban poverty in the big cities. One of the important reasons for this significant relationship is the basic needs budget can help to explain in more details about the definition of urban poverty in terms of access to certain basic needs in a specific area. In addition, concepts that were related to the basic needs budget was summarized. Other information regarding the basic needs budget study was also included in this paper.

A Description of Basic Needs Budget

The basic needs budget concept (also known as the family budget or exert budget in the American literature and budget standard in Britain and Australia (Fisher, 2012)) has a similarity with the minimum expenditure. The minimum expenditure is the expenditure needed to achieve a given utility with limited income (Nicholson & Snyder, 2008) to maintain a safe and decent standard of living (Rosewater, 1921; Diamond, 1990; Flanagan & Flanagan, 2011; Chien & 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 & French, 2014). More on, the basic needs budget includes the cost for essential items such as food, housing, transportation, child care, clothing, utilities expenses, health and dental care, life insurance, and savings (Joint Fiscal Office, 2015).

Malaysia Middle Income Group

The middle income group plays an important role in the economic development of a country (Dyck, Hansakul, & Saxena, 2009; Asian Development Bank, 2010). This is because consumers in the middle income group have led the growth in domestic consumption and sustained economic growth due to their higher willingness to pay for better quality products and their higher savings rate. But, there is no standard definition for middle income and most economists define middle income in terms of the income or consumption level. For the purpose of this study, middle income group were defined as those individuals whose income is between 75 per cent and 125 per cent of the society's median per capita income following Birdsall, Graham and Pettinato (2000). Based on the Household Expenditure Survey and Household Income and Basic Amenities Survey, Malaysia's middle household income group in 2014 comprises households whose earnings were between RM3,438.75 to RM5,731.25 a month (see Table 1).

Table 1 Malaysia's median household income and middle income, 2009 to 2014

Year	Median income (RM / month)	Middle income (RM / month)	
		75%	125%
2009	2,841	2,130.75	3,551.25
2012	3,626	2,719.50	4,532.50
2014	4,585	3,438.75	5,731.25

Source: Department of Statistics Malaysia (2012; 2013; 2015a); author's calculations

On the other hand, based on the Salaries and Wages Report in Malaysia, the income of the middle income group in the education sector ranges from RM2,992.50 to RM4,987.50 in 2015 (see Table 2).

Table 2 Malaysia's median income and middle income for education sector, 2013 to 2015

Year	Median income (RM / month)	Middle income (RM / month)	
		75%	125%
2013	3,380	2,535.00	4,225.00
2014	3,715	2,786.25	4,643.75
2015	3,990	2,992.50	4,987.50

Source: Department of Statistics Malaysia (2014; 2015b; 2016); author's calculations

Meanwhile, if by analysing the median monthly household income of the middle 40 per cent, it ranges from RM4,098.75 to RM6,831.25 a month in 2014 in Malaysia as shown in Table 3.

Table 3 Malaysia's median monthly household income
of middle 40%, 2009, 2012 and 2014

Year	Median income (RM / month)	Middle income (RM / month)	
		75%	125%
2009	3,640	2,730.00	4,550.00
2012	4,372	3,279.00	5,465.00
2014	5,465	4,098.75	6,831.25

Source: Department of Statistics Malaysia (2012; 2013; 2015a), author's calculations

Finally, based on households' income share, for the middle 40 per cent income group range, their income ranges from RM4,000 to RM8,999 in 2014 as shown in Table 4.

Table 4 Households and income share by monthly household income
class in Malaysia, 2014

Income class (RM)	HH (%)	IS (%)	Income groups (%)							
			B40			M40			T20	
			HH	IS		HH	IS		HH	IS
1,999 and below	11.7	2.8	11.7	2.8						
2,000 to 2,999	12.6	5.1	24.3	7.90						
3,000 to 3,999	17.8	10.0	42.1	17.9						
4,000 to 4,999	12.8	9.3				12.8	9.3			
5,000 to 5,999	10.1	9.0				22.9	18.3			
6,000 to 6,999	7.4	7.8				30.3	26.1			
7,000 to 7,999	6.0	7.3				36.3	33.4			
8,000 to 8,999	4.5	6.2				40.8	39.6			
9,000 to 9,999	3.4	5.2							3.4	5.2
10,000 to 10,999	2.4	4.2							5.80	9.40
11,000 to 11,999	2.0	3.7							7.80	13.1
12,000 to 12,999	1.6	3.2							9.40	16.3
13,000 to 13,999	1.2	2.7							10.6	19.0
14,000 to 14,999	1.1	2.5							11.7	21.5
15,000 and above	5.4	21.0							17.1	42.5
Total	100	100	42.1	17.9		40.8	39.6		17.1	42.5

Source: Department of Statistics Malaysia (2015c)
Note: HH denotes Household; IS denotes Income Share

Therefore, for this study, middle income group are defined as the group whose earnings are between RM2,992.50 to RM8,999 a month after considering Birdsall et al.'s (2000) median income definition, median income of the education sector workers, and the income and income share of the middle 40 per cent of households.

Middle Income Benchmark in Malaysia

This study used employees in the education services sector or teachers as the respondents and benchmark to represent the middle income group in the civil service. According to the Human Resource Management Information System (HRMIS), the Ministry of Education Malaysia has the biggest number of civil servants comprising 539,383 out of a total of 1,414,854 civil servants as of March 2014. The number of

teachers in primary and secondary schools in 2014 was 412,456 (Ministry of Education Malaysia, 2014) and they are entitled to the grade 41 salary scale with a starting salary of RM1,917 and a maximum salary of RM11,864 at grade 54 and a fixed annual increment of 3 per cent of their salary (Department of Civil Services Malaysia, 2015). Besides, from the Salaries and Wages Report, the highest median salary recorded by employees in the education sector in Malaysia was RM2,803 per month in 2010 and rose to RM3,990 per month in 2015 (Department of Statistics Malaysia, 2012; 2016).

The range in teachers' salary also is more stable and has always been a benchmark and reference for other civil service groups in the government's annual budget and others. Teachers need to work and deliver their services for 8 years to entitle them to obtain grade 44 and another 8 years to get to grade 48. But not all teachers are eligible for grade 52, 54 or higher because these grades are normally enjoyed by those who are appointed as school administrators such as the principal or head of the education department. Therefore, teachers' salaries are in line with the middle income definition for this study. Other than that, the middle income group in the civil service most of them are teachers 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 such as housing insurance, vehicle insurance, building maintenance and repair, access to utilities, satellite television services and communication, and others. 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 (GST). The middle and low income groups also bear a higher GST tax burden (Lim & Ooi, 2013).

Furthermore, the middle income group is a large group who are caught in the affordable housing trap. This is because house prices continue to rise, housing loans approvals are getting stricter and less choice are available for the middle income group as they find it difficult to own a house at the location of their choice (Baqutaya, Ariffin, & Raji, 2016). The acceleration in housing prices has been so rapid to the extent that even middle income households cannot afford to purchase a house (EPU, 2015; Raja Ariffin, Zahari, & Tumin, 2015).

Five Groups in Basic Needs Budget

In this study, 5 groups of household expenditure were chosen to represent the basic needs of households, namely expenditure on (1) food, (2) housing, water, electricity, gas and other fuels (later known as housing and electricity), (3) transportation, (4) communication, and (5) child care and education (Renwick, 1998; Allegretto, 2006; Fisher & French, 2014). In the earlier studies on household expenditure, expenditure on food and clothing was found to be more important than other components of household

expenditure (Ismail, 1971; Haworth & Rasmussen, 1973; Benus, Kmenta, & Shapiro, 1976; Deaton, Ruiz-Castillo, & Thomas, 1980). But expenditure on clothing was not included as a basic necessity but as discretionary spending because people may buy a t-shirt or clothing and footwear during the festive seasons and once a year. We need to acknowledge that the definition of basic needs changes over time.

Food remains the main necessity in life (More, 1913; Ismail, 1971; Haworth & Rasmussen, 1973; Benus et al., 1976; Deaton et al., 1980; Pasha & Pasha, 2012; Dudek & Koszela, 2013). However, other necessities such as transport, communication (Flanagan & Flanagan, 2011; Fisher & French, 2014), housing (More, 1913; Haworth & Rasmussen, 1973; Deaton et al., 1980; Renwick, 1998; Allegretto, 2006; Flanagan & Flanagan, 2011; Dudek & Koszela, 2013; Fisher & French, 2014) and electricity (Flanagan & Flanagan, 2011; Dudek & Koszela, 2013; Fisher & French, 2014) have become major priorities and part of basic needs in order to improve or maintain the same standard of living before the increase in the cost of living. Besides, at the end of the 20th century and in the early 21st century, household expenditure on education has also become a major part of household spending (Deaton et al., 1980; Kulub Abd. Rashid, Nasir, & Nik Mustapha, 2010; Sekhampu & Niyimbanira, 2013).

Cities with High Cost of Living in Malaysia

In order to select cities that have high cost of living, analysis of variance was run to test whether there is any significant difference in the cost of living between the Malaysian states for the period 2010 to 2014 using monthly data. The results from the analysis of variance indicate that the mean cost of living in the Malaysian states is about the same and there is no significance difference in the cost of living among the states. This is because the CPI as a proxy for the cost of living may be not able to capture any significant difference between the Malaysian states as the CPI only tracks the average change over time in the prices for goods and services paid by consumers at macro level. As consequences, the GDP per capita which measures the standard of living in Malaysian state are significantly different. Since there are significance differences between the states, multiple comparison tests were conducted to check the sources of differences by using the simplest and most common multiple comparison test, the Bonferroni method. Based on a summary of the pairwise comparisons in Table 5, Kuala Lumpur and Kelantan have the highest frequency of being significantly different with all states in Malaysia with a total score of 13 times.

Table 5 Summary of pairwise comparison between Malaysian states

State	JHR	KDH	KEL	MEL	N9	PHG	PNG	PRK	PER	SEL	TRG	SBH	SRW	KL
JHR		1	1	0	0	0	1	0	0	1	0	1	1	1
KDH	1		1	1	1	1	1	0	0	1	1	0	1	1
KEL	1	1		1	1	1	1	1	1	1	1	1	1	1
MEL	0	1	1		0	0	0	1	1	0	1	1	0	1
N9	0	1	1	0		0	0	1	1	0	1	1	0	1
PHG	0	1	1	0	0		1	0	1	0	0	1	1	1
PNG	1	1	1	0	0	1		1	1	0	1	1	0	1
PRK	0	0	1	1	1	0	1		0	0	0	0	1	1
PER	0	0	1	1	1	1	1	0		1	1	0	1	1
SEL	1	1	1	0	0	0	0	0	1		1	1	0	1
TRG	0	1	1	1	1	0	1	0	1	1		0	1	1
SBH	1	0	1	1	1	1	1	0	0	1	0		1	1
SRW	1	1	1	0	0	1	0	1	1	0	1	1		1
KL	1	1	1	1	1	1	1	1	1	1	1	1	1	
Score	7	10	13	7	7	7	9	6	9	7	9	9	9	13

Thus it can be concluded that Kuala Lumpur, Selangor, Sarawak, Penang, Melaka, Negeri Sembilan and Johor have a high cost of living, with higher frequent of being significantly different and high variance. Central region was represented by the Kuala Lumpur, George Town in Penang represented the northern region and Johor Baharu in Johor represented the southern region. Other than that, the Department of Civil Services Malaysia (2014) also indicated that the variation in the cost of living can be shown by area where Kuala Lumpur, Penang, Selangor and Johor Bahru were in area A with RM300 cost of living allowance (COLA) per month.

3   Methodology

Since the study on the basic needs budget used cross-sectional data, a survey was carried out using a structured questionnaire. The set of survey questions were made available in the Malay and English language. To fulfil the objective of the basic needs budget study, the questionnaire has been designed to obtain data that can provide answers. The questionnaire was divided into four parts and begins with an introduction that explained the purpose of the survey and assures confidentiality to the respondent. This

was followed by section A that gathered demographic details such as marital status, number of children and so on. Section B was about the respondent income and section C was regarding the income of the respondent's spouse. Section D consists of 7 sub-sections to be completed by the household head with regard to his or her household expenditure on 5 groups of household expenditure.

Sample Size and Respondents

In order to collect the data, we adopt random sampling technique. A stratified random sampling based survey is more representative of the population that ensure the estimates can be made with equal accuracy in different parts of the region, and that comparisons of sub-regions can be made fairly. Besides, in this basic needs budget study, we also used cluster sampling, whereby the population is subdivided into groups or clusters. Thus, the sampling for the basic needs budget study is clustered by geographical location. But how large a simple random sample is required for the case study? According to Agung (2011), a sample size never has to be estimated using a formula for any research. More on, according to on Hamburg (1974), the researcher must answer two questions before deciding on how large a simple random sample is required such as what degree of precision is desired and how probable that desired precision will be obtained. Therefore, based on Hamburg (1974), to achieve the desired degree of precision, a simple random sample of at least 385 respondents would be required for this study.

4   Results and Discussion

Since the basic needs budget study involved 3 different cities in Malaysia that have a high cost of living, the number of samples distributed proportionately according to the number of teachers in the representative state capitals. For Kuala Lumpur, the number of respondents required is 146, 147 respondents for Johor Baharu in Johor, and 92 respondents for George Town in Penang. A total of 642 questionnaires were distributed in 3 capital cities (see Table 6). This study also divided the sample into 2 types of families, which were single-adult and two-parent families. Here, it was assumed that 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 was defined as a child between the ages of 1 to 3 years, and two children were families who had one child aged 1 to 3 years, and another child aged 6 to 18 years.

Table 6 Questionnaires distributed and sample size for BNB survey

Capital city	Distributed	Returned	Missing[*]	Sample		Required sample size
				Total	%	
Kuala Lumpur	216	183	37	146	31	146
Johor Baharu	216	199	29	170	36	147
George Town	210	190	33	157	33	92
Total	642	572	99	473	100	385

Note: [*] not returned, missing value or not complete.

For single-adult families, the total sample was 87 or 18.4 per cent of the total sample and the breakdown was 30 samples (20.5 per cent) from Kuala Lumpur, 26 samples (15.3 per cent) from Johor Baharu and 31 samples (19.7 per cent) from George Town. For two-parent families there are two categories, namely one-working parent and two-working parents. A total of 99 samples or 20.9 per cent with one-working parent families that included 30 samples from Kuala Lumpur, Johor Baharu with 39 samples and 20 samples in George Town. While the two-working parent families comprise 287 samples or 60.7 per cent. From that total numbers, 86 samples were from Kuala Lumpur, while 105 and 96 samples were from Johor Baharu and George Town, respectively (see Table 7).

Table 7 Sample distribution based on type of family

Type of family	Kuala Lumpur		Johor Baharu		George Town		Sum	
	Total	%	Total	%	Total	%	Total	%
Number of respondents	146	100.0	170	100.0	157	100.0	473	100.0
Single-adult	30	20.5	26	15.3	31	19.7	87	18.4
Two-parent	116	79.5	144	84.7	126	80.3	386	81.6
(a) One-working parent	30	20.5	39	22.9	30	19.1	99	20.9
(b) Two-working parent	86	58.9	105	61.8	96	61.1	287	60.7

Basic Needs Budget: Single-Adult Household

The total expenditure on basic needs for single-adults in the 3 capital cities in Malaysia was RM2,908.88 a month. Kuala Lumpur single-adult recorded the highest monthly basic needs budget, which was RM3,089.36 a month, compared to George Town (RM2,911.59) and Johor Baharu (RM2,697.41). The housing and electricity expenditure were the priority for single-adults with 34 per cent out of total expenditure on basic needs, followed by expenditure on transportation (32.8 per cent), food (23.9

per cent) and communication (9.2 per cent). Transportation expenditure was the main priority for single-adults in Johor Baharu and George Town, compared to housing and electricity expenditure in Kuala Lumpur. As illustrated in Table 8, single-adults had surplus income of RM1,600.74 a month, on average. Single-adults in George Town had the highest surplus income of RM1,904.64 a month after income tax and basic needs expenditure deduction, compared to Johor Baharu (RM1,766.63) and Kuala Lumpur (RM1,142.94).

Table 8 Income and basic needs budget for single-adult household

Item	Kuala Lumpur		Johor Baharu		George Town		Average
Income and taxes	RM		RM		RM		RM
Income	4,291.29		4,534.82		4,985.65		4,611.48
(−) Income tax	58.99		70.78		169.42		101.86
Net income	4,232.30		4,464.04		4,816.23		4,509.62
Monthly expenses							
Housing and electricity	1,116.87		863.87		966.87		987.81
Food	706.18		652.34		722.81		696.02
Transport	916.53		984.32		971.46		956.36
Communication	349.78		196.88		250.45		268.69
Child care and education	0.00		0.00		0.00		0.00
Total basic needs budget	3,089.36		2,697.41		2,911.59		2,908.88
Deficit/ Surplus	1,142.94		1,766.63		1,904.64		1,600.74

Basic Needs Budget: One-Working Parent with One Child

The total basic needs budget for one-working parent with one child (OWP_1) in the 3 capital cities in Malaysia was RM5,236.40 a month, on average. OWP_1 families in Johor Baharu OWP_1 recorded the highest monthly basic needs budget, which was RM5,830.11 a month, higher than Kuala Lumpur (by RM552.40) and George Town (by RM1,137.27). Besides, the analysis indicated that transportation expenditure had become a main priority for OWP_1 families in the 3 capital cities, followed by housing and electricity, food, child care and education as well as communication. There was huge difference between child care and education costs alone in Johor Baharu and George Town with RM422.18 a month, followed by transportation cost of RM339.96.

Table 9 Income and basic needs budget for OWP with one child households

Item	Kuala Lumpur		Johor Baharu		George Town		Average
Income and taxes	RM		RM		RM		RM
Income	5,405.95		5,817.31		4,885.93		5,345.97
(−) Income tax	124.67		155.00		97.90		124.24
Net income	5,281.28		5,662.31		4,788.03		5,221.73
Monthly expenses							
Housing and electricity	1,364.60		1,431.51		1,147.89		1,309.26
Food	1,258.25		1,070.33		1,018.59		1,120.78
Transport	1,407.72		1,747.68		1,471.93		1,528.79
Communication	280.64		371.82		267.84		302.75
Child care and education	966.50		1,208.77		786.59		974.82
Total basic needs budget	5,277.71		5,830.11		4,692.84		5,236.40
Deficit/ Surplus	3.57		−167.80		95.19		−14.67

Table 9 indicated that OWP_1 families suffered from budget deficits of RM14.67 a month. The pressure on the cost of living happens in Johor Baharu capital city with budget deficit of RM167.80 a month. Whereas, OWP_1 families in George Town and Kuala Lumpur have surplus income of RM95.19 and RM3.57, respectively.

Basic Needs Budget: One-Working Parent with Two Children

For one-working parent with two children (OWP_2), there were significant difference in transportation costs of RM751.13 a month between Kuala Lumpur and George Town, and RM499.78 between Johor Baharu and George Town.

Table 10 Income and basic needs budget for OWP with two children households

Item	Kuala Lumpur		Johor Baharu		George Town		Average
Income and taxes	RM		RM		RM		RM
Income	6,665.90		6,317.18		6,571.15		6,433.04
(−) Income tax	223.18		218.09		168.92		208.28
Net income	6,442.72		6,099.09		6,402.23		6,224.76
Monthly expenses							
Housing and electricity	1,712.50		1,476.92		1,658.60		1,557.39
Food	1,147.50		1,224.05		1,043.14		1,171.42
Transport	1,646.96		1,395.61		895.83		1,330.66
Communication	371.25		339.50		297.00		335.78
Child care and education	1,187.50		1,320.72		1,050.00		1,238.69
Total basic needs budget	6,065.71		5,756.80		4,944.57		5,633.94
Deficit/ Surplus	377.01		342.29		1,457.66		590.82

The total basic needs budget in Kuala Lumpur was higher than George Town by RM1,121.14 a month and by RM308.91 with Johor Baharu. The mean income of OWP_2 is RM6,433.04 a month more than OWP_1 families by RM1,087.07. OWP_2 families in Kuala Lumpur have the highest mean income with RM6,665.90 a month, followed by George Town (RM6,571.15) and Johor Baharu (RM6,317.18). Based on income and monthly basic needs budget statement as shown in Table 10, OWP_2 families in Johor Baharu had surplus income of RM342.29, RM377.01 in Kuala Lumpur and RM1,457.66 in George Town.

Basic Needs Budget: Two-Working Parent with One Child

The total expenditure on basic needs for two-working parent with one child (TWP_1) families in the 3 capital cities in Malaysia was RM4,835.36 a month. George Town recorded the highest monthly basic needs budget, which was RM4,973.36 a month, compared to Johor Baharu (RM4,969.02) and Kuala Lumpur (RM4,507.67). This implies that there was no big difference in the basic needs budget among the cities. TWP families dedicated the largest share of their average monthly basic needs budget to housing and electricity (30.4 per cent), transportation (27.7 per cent), food (21.8 per cent), child care and education (15.9 per cent) as well as communication (6.2 per cent). Besides, the mean household income of TWP_1 families was RM9,326.66 a month, on average, RM9,527.37 in George Town, RM9,204.96 in Kuala Lumpur and

RM9,219.35 in Johor Baharu. As illustrated in Table 11, there was surplus income of RM71.54 a month after the deduction of basic needs expenditure. TWP_1 families manage to have surplus income of RM4,230.82 a month, on average, and RM4,031.05 to RM4,454.61 a month in 3 capital cities after adding in the spouse income into the budget calculations.

Table 11 Income and basic needs budget for TWP with one child households

Item	Kuala Lumpur		Johor Baharu		George Town		Average
	Respondent income						
Income and taxes	RM		RM		RM		RM
Income	4,904.99		5,037.44		5,066.84		5,009.26
(−) Income tax	65.81		108.95		125.66		102.36
Net income	4,839.18		4,928.49		4,941.17		4,906.90
Monthly expenses							
Housing and electricity	1,433.78		1,350.63		1,618.49		1,472.00
Food	808.08		1,184.78		1,128.34		1,053.92
Transport	1,332.19		1,448.39		1,247.49		1,341.60
Communication	320.39		292.34		289.18		299.41
Child care and education	613.23		692.88		689.86		668.43
Total basic needs budget	4,507.67		4,969.02		4,973.36		4,835.36
Deficit/ Surplus	331.51		−40.53		−32.18		71.54
	Spouse income						
Income	4 299.97		4 181.91		4 460.54		4 317.40
(-) Income Tax	176.87		110.33		188.47		158.12
Net Income	4 213.10		4 071.58		4 272.07		4 159.28
Deficit / Surplus	4 454.61		4 031.05		4 239.89		4 230.82

Basic Needs Budget: Two-Working Parent with Two Children

The analysis with two-working parent with two children (TWP_2) families in this study significantly showed that the 3 capital cities had a high cost of living. The cost of living for TWP_2 families in Johor Baharu was RM6,346.37, RM6,269.18 in Kuala Lumpur and RM6,101.40 a month in George Town. Based on the evidence provided, a number of 4 out of 5 household expenditure groups resulted to a significant expenditure except communication. Moreover, the mean income of TWP_2 is RM11,156.53 a month, on

average. As shown in Table 12, TWP$_2$ families in Johor Baharu had a surplus income of RM2,983.72, RM3,175.67 in Kuala Lumpur and RM3,496.68 in George Town at the end of the month after taking into account spouse income.

Table 12 Income and basic needs budget for TWP with two children households

Item	Kuala Lumpur		Johor Bahru		George Town		Average
	Respondent income						
Income and taxes	RM		RM		RM		RM
Income	5,691.53		5,803.32		5,967.93		5,810.07
(−) Income tax	142.46		186.12		275.48		194.49
Net income	5,549.07		5,617.20		5,692.45		5,615.58
Monthly expenses							
Housing and electricity	1,725.54		1,815.33		1,972.30		1,826.41
Food	1,197.16		1,163.10		1,239.94		1,190.06
Transport	1,631.99		1,573.57		1,418.42		1,554.25
Communication	363.10		363.79		375.24		366.22
Child care and education	1,351.39		1,430.58		1,095.50		1,332.11
Total basic needs budget	6,269.18		6,346.37		6,101.40		6,269.05
Deficit/ Surplus	-720.11		-729.17		-408.95		-653.47
	Spouse income						
Income	5,227.05		5,015.36		6,208.11		5,346.46
(−) Income tax	186.10		175.96		376.24		224.54
Net income	5,040.95		4,839.40		5,831.87		5,121.92
Deficit/ Surplus	4,320.84		4,110.23		5,422.92		4,468.45

5 Conclusion

From descriptive analysis, the range for basic needs budget in 3 capital cities ranges from RM4,835.36 to RM6,269.05 a month for OWP and TWP, on average. For single-adults, they have to spend RM2,697.41 to RM3,089.36 a month. The average surplus income for single-adults a month range from RM1,142.94 to RM1,904.64 in 3 capital cities. However, OWP$_1$ suffered from budget deficits of RM14.67 a month, on average, and Johor faced greater effect on the high cost of living. Lastly, TWP managed to have surplus income after adding in spouse income which ranged from RM4,031.05

to RM5,422.92 a month. For the information, the surplus income obtained in this analysis does not yet take into account the expenditure on clothing, entertainment and recreation, any monthly commitments for the credit card, personal loan or education, and emergency expenditures such as breakdowns, buy a durable goods or others. In fact, three types of expenditure that had become the priority for household were housing and electricity, food and transportation. Overall, Johor Baharu capital city is the most expensive city to live, followed by Kuala Lumpur and George Town.

References

Agung, I. G. N. (2011). *Cross section and experimental data analysis using eviews* (3rd edition). Singapore: John Wiley & Sons.

Asian Development Bank. (2010). *Key indicators for Asia and the Pacific 2010*. Manila, Philippines: Author.

Baqutaya, S., Ariffin, A. S., & Raji, F. (2016). Affordable housing policy: Issues and challenges among middle-income groups. *International Journal of Social Science and Humanity*, *6* (6, June 2016), 433 – 436.

Benus, J., Kmenta, J., & Shapiro, H. (1976). The dynamic of household budget allocation to food expenditure. *The Review of Economic and Statistics*, *2*, 129 – 138.

Birdsall, N., Graham, C., & Pettinato, S. (2000). Stuck in the tunnel: Is globalization muddling the middle class. *The Brookings Institution Center on Social and Economic Dynamics Working Paper No. 14*. Washington.

Chien, N. C., & Mistry, R. S. (2013). Geographic variations in cost of living: Associations with family and child well-being. *Child Development*, *84* (1), January/ February 2013, 209 – 225.

Church, J. (2015). Beyond the numbers: Prices and spending. *Bureau of Labor Statistics*, *4* (10).

Deaton, A., Ruiz-Castillo, J., & Thomas, D. (1980). The influence of household composition on household expenditure patterns: Theory and Spanish evidence. *Journal of Political Economy*, *97* (1), 179 – 200.

Department of Civil Services Malaysia. (2014). *Pekeliling Kemajuan Pentadbiran Awam [Sejak 1991]*. Petaling Jaya, Selangor: International Law Book Services.

Department of Civil Services Malaysia. (2015). *Penambahbaikan kaedah pemberian pergerakan gaji tahunan dalam pelaksanaan jadual gaji minimum-maksium. Pekeliling Perkhidmatan 2(2015)*, Putrajaya.

Department of Statistics Malaysia. (2012). *Household income and basic amenities survey report 2009*. Putrajaya: Percetakan National Berhad.

Department of Statistics Malaysia. (2013). *Household income and basic amenities survey report 2012*. Putrajaya: Percetakan National Berhad.

Department of Statistics Malaysia. (2014). *Salaries and wages report 2013*. Kuala Lumpur: Percetakan National Berhad.

Department of Statistics Malaysia. (2015a). *Household income and basic amenities survey report 2014*. Putrajaya: Percetakan National Berhad.

Department of Statistics Malaysia. (2015b). *Salaries and wages report 2014*. Kuala Lumpur: Percetakan National Berhad.

Department of Statistics Malaysia. (2015c). *Report on household expenditure survey: Malaysia 2014*. Putrajaya: Percetakan National Berhad.

Department of Statistics Malaysia. (2016). *Salaries and wages report 2015*. Kuala Lumpur: Percetakan National Berhad.

Diamond, C. A. (1990). Cost-of-living indexes and demographic change. *Applied Economics*, *22*, 739 – 757.

Dudek, H., & Koszela, G. (2013). Comparison of households' expenditures structures in selected countries of European Union. *ACTA Scientiarum Polonorum*, *12* (13), 5 – 15.

Duesenberry, J. S. (1949). *Income, saving and the theory of consumer behaviour*. Cambridge: Harvard University Press.

Dyck, S., Hansakul, S., & Saxena, R. (2009). *Emerging Asia's middle class: A force to be reckoned with*. Frankfurt, Germany: Deutsche Bank Research.

Fisher, G. M. (2012). *Standard budgets (Basic needs budgets) in the United States since 2006*. United States Census Bureau.

Fisher, P. S., & French, L. (2014). *The cost of living in Iowa*. Iowa City: The Iowa Policy Project.

Flanagan, J., & Flanagan, K. (2011). *The price of poverty: The cost of living for low income earners*. Anglicare Tasmania: The Social Action and Research Centre.

Hamburg, M. (1974). *Basic statistics: A modern approach*. United States: Harcourt Brace Jovanovich Incorporated.

Haworth, C. T., & Rasmussen, D. W. (1973). Determinants of metropolitan cost of living variations. *Southern Economic Journal*, *40* (2), 183 – 192.

Ismail, A. H. (1971). *A study of total expenditure elasticities for West Malaysia*. Kuala Lumpur: Kinabalu Printing.

Joint Fiscal Office. (2015). *Basic needs budget and the livable wage.* Vermont Legislative, State of Vermont.

Kulub Abd. Rashid, N., Nasir, A., & Nik Mustapha, N. H. (2010). *Household income and expenditure relationships: A simultaneous equation approach*. International Conference on Business and Economic Research, 15 – 16 March, Kuching, Sarawak.

Lim, K. H., & Ooi, P. Q. (2013). *Implementing goods and services tax in Malaysia*. Penang Institute.

Ministry of Education Malaysia. (2014). *Malaysian educational statistics 2014*. Putrajaya: Educational Planning and Research Division.

More, L.B. (1913). The cost of living for a wage-earner's family in New York city. *The annals of the American academy of Political and Social Science*, *48*, 104 – 111.

Nicholson, W., & Snyder, C. (2008). *Macroeconomics theory: Basic principles and extensions* (10th edition). Canada: South-Western Cengage Learning.

Pasha, H. A., & Pasha, A. G. (2002). Cost of living index by city of Pakistan. *Research report No. 43*. Pakistan: Social Policy and Development Centre.

Raja Ariffin, R. N., Zahari, R. K., & Tumin, M. (2015). Housing and transport in Malaysia: A fundamental combination in determining affordably. *AENSI Journal Advances in Environmental Biology*, *9* (23, October 2015), 156 – 190.

Renwick, T. J. (1998). Basic needs budgets revisited: Does the U.S. consumer price index overestimate the changes in the cost of living for low-income families? *Feminist Economics*, *4* (3), 129 – 142.

Rosewater, V. (1921). Wages, budgets, cost of living. *The American Economic Review*, *11* (4), 659 – 662.

Sekhampu, T. J., & Niyimbanira, F. (2013). Analysis of the factors influencing household expenditure in a South African township. *International Business and Economics Research Journal*, *12* (3), 279 – 284.