

Does Income Difference Cause Different Household Expenditure Consumption?

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Research has shown that people are increasingly concerned with environmental, economic and social issues. They want a better livelihood, standard of living and more sustainable choices. Unfortunately, few of them translate this willingness into behaviour. Consumers have a crucial role to develop business models and products which make efficient use of resources. Central to all production is consumption because it drives much of the environmental stress, waste management and resource exhaustion directly and indirectly through the production of the goods and services demanded. Income inequality and sustainable consumption are two terms that are interconnected and significant in explaining the economic environment. It measures the extent to which individual households interact in the economic cycle of the use of goods and services. Different income can be shown through different consumption expenditure patterns whether they are basic goods, necessities or luxury items. This paper investigates how the total household consumption expenditures have developed and how they have allocated their consumption budgets based on different consumption categories. It also identifies how the low, middle and high-income groups allocate household consumption expenditure comprising nine basic components, namely food, clothing, shelter, transportation, communication, education, health and recreation. The data is collected from a questionnaire survey conducted with 635 different households in Terengganu, Malaysia. The findings indicate that food and transportation are expenditure priorities across all groups. The difference in the existing pattern of consumption will be the benchmark for the economic balance to achieve a prosperous quality of life and reduce the inequality gap between high and low-income groups. Several recommendations are offered in terms of education policy, financial aid and assistance from government and

non-government organisations (NGO) to upgrade the standard and quality of living among the poor and lower-income groups. Researchers and policymakers can also benefit from this study to assess the extent of the quality of life and standard of living.

Key words: *Income inequality, sustainable consumption, consumption expenditure.*

Introduction

Many studies on ‘inequality’ of household well-being are shown through income, wages or earnings. The most appropriate indicator of this measurement is consumption expenditure since it can reflect better long-run resources. Meyer & Sullivan (2013) stated that ‘income measures fail to capture disparities in consumption that result from differences across families in the accumulation of assets or access to credit’. They concluded that consumption is the best measurement to explain well-being. It is interesting to capture these differences between income and consumption during severe recessions and sharp declines in asset prices (Meyer & Sullivan, 2011;2012).

On the other hand, Attanasio & Pistaferri (2016) elaborate that ‘the distinction between income and consumption could make a meaningful difference in thinking about inequality if the distribution of consumption at a given point in time is less wide than that of income, or if its evolution over time is smoother than that of income. Consumption can differ from income if consumers borrow or save, or if they receive transfers from other family members or the government in response to income shocks’. In the context of income and consumption inequalities, current economic conditions such as rising prices of goods, rising inflation rates and high cost of living will affect the individual’s lifestyle and determine where it is sustainable.

Malaysia has been among the best in Asia in achieving economic growth despite the challenges and economic shocks over the last five decades with recorded stable Real Gross Domestic Product (GDP) growth rate at 6.2% per annum since 1970. Malaysia has undergone many changes in its economic structure whereby in the 1970s, Malaysia started with an agriculture-based economy. In the mid-1980s, it managed to transform the economic structure from an agriculture-based economy to a manufacturing-based economy and transformed into modern services in the 1990s. In addition, Malaysia developed from a low-income economy in the 1970s to a high middle-income economy since 1992 and remains on the path to achieve its Vision 2020 target. National per capita income increased over 25 times from US \$ 402 in 1970 to US \$ 10,796 in 2014. This achievement shows that Malaysia is on the right track to surpass the minimum income level of a high-income economy of US \$15,000 by 2020 (Economic Planning Unit, 2015).

Malaysia's five-year development plan namely, the Eleventh Malaysia Plan (11MP) 2016–2020 was formed towards realising the goal of Vision 2020. The preparation of the 11th Malaysia Plan is based on the National Development Strategy of Malaysia (MyNDS) which focuses on the development of a people-based economy and capital-based economy with the implementation of high impact projects. There were five key challenges to be addressed by the government during the 11th Plan such as global economic uncertainty, slow productivity growth, limited fiscal policy management space, low labour compensation and gaps in household income (Economic Planning Unit, 2015). Hence, the RMKe-11 will focus more on the people's economy whereby the people will be a priority in all national development efforts. These economic reforms in Malaysia have drastically changed the pattern of savings and investment and have been a significant factor in Malaysia's development.

Based on the Absolute Income Hypothesis (traditional Keynesian), a high domestic investment rate arises from a high domestic savings rate by consumption indicator. Meanwhile, the marginal propensity to consume for a rich household is lower than that of a poor household. Therefore, the equalisation of income distribution may increase aggregate consumption in the country and vice versa (Lin Gou, 2017). On the other hand, in the 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). Therefore, Renwick (1998) and Church (2015) claimed that daily price changes and the cost of living can be realistically applied in the study of basic needs. In the case of the cost of living rising rapidly compared to increases in the wage rates, the cost of basic needs will rise slightly more than income and inflation, which can be demonstrated through the 'Consumer Price Index'.

This paper discusses the differences in consumption expenditure pattern among different income groups, namely T20, M40 and B40. The discussion arises when looking at data on consumption expenditure across the groups with many contributing factors such as high cost of living, subsistence assistance by the government, fuel price instability, and so on. Next, this paper offers an interpretation of income inequality trends with consumption inequality. Specific data on inequality in consumption expenditures can be elaborated by foods, housing, clothing, transportation, communication, health, education, recreation and others. Following this, we discuss how the difference in income will reflect different consumption behaviour according to their respective capabilities. These differences will determine how each household uses existing earnings to achieve sustainable consumption. These comparisons suggest ways in which aggregate consumption inequality fails to tell the entire story. Dealing with measurement problems in consumption data requires strategies as well as the reinterpretation of the underlying economic forces. This paper does not intend to demonstrate whether income inequality would be an effective way to reduce consumption inequality.

Instead, it seeks to understand whether the policy goals of reducing inequality are compatible or contradictory to sustainable consumption. This is the main goal and challenge each household with different income to appreciate the statements contained in the Sustainable Development Goals (SDG), which is the Goal 12 ‘Responsible consumption and production’ with ‘By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature’ (UNDP, 2019).

Researchers interested in measuring inequality in well-being need to go beyond the fact that consumption is unequally distributed and unpredictable, and realise that a full picture of the evolution in welfare requires taking a stand on quality concerns and on the value that people attach to leisure, among other things. Indeed, life welfare measurement based on income and expenditure equality is difficult to make subjective and objective judgements since it depends on how the household itself interprets the ‘sufficiency of life’ rather than the satisfaction of the life being sought. The remainder of this paper is organised as follows. Section 2 reviews the relevant literature review; Section 3 explains the methodology and sampling; Section 4 presents the findings and discussion; and Section 5 presents the conclusions as well as brief policy implications.

Household Income and Consumption Expenditure

Research interest in income inequality and consumption has been growing over the past two decades with many economic studies from different perspectives. The estimation of income inequality is relatively simple. Nevertheless, much of the existing scholarship on income inequality has been plagued by a lack of individual data due to the limitation of geographical coverage and different periods. In addition, assessing inequality trends in terms of income and consumption is a major challenge because individual data on income or consumption is not often available (Vanesa Jordá & Miguel Niño-Zarazúa, 2019). Inequality forms part of the Sustainable Development Goal 10 with the key concern of securing well-being and sustained development.

Based on UNIDO (2015), inequality has a significant relationship with poverty. It cannot be eradicated without addressing the pervasive inequalities in incomes and economic opportunities between and within populations, countries and regions. Macroeconomic gains such as well-balanced, high quality and equitable economic growth would avoid the aggravation of spatial inequalities and threats to social cohesion and inter-generational prosperity. The 10th goal of the SDG is to reduce inequality within and among countries.

Assessing the well-being of households through the perspective of income and consumption expenditure would help provide a complete picture on how a household spends the money or budget allocation towards sustainable consumption patterns. It is critical to base the analysis



on understanding the trends and changes in household income and expenditure. Besides, the welfare of a country is determined by income and expenditure that comes from various effects. Findings show that income inequality will disrupt economic growth (Deininger and Squire, 1998; Barro, 2000; Herzer & Vollmer, 2012). In addition, Alesina & Perotti (1996) stated that inequality contributes to increased political instability, which, in turn, tends to reduce investment and production volumes while Chong & Gradstein (2007) demonstrated a negative relationship between income inequality and institutional quality. The effects can be seen from the perspective of macroeconomic outcomes, but it also affects individual well-being in a direct way. Furthermore, high inequalities will lead to high poverty and consequently create problems of deprivation and social exclusion in both short-run and long-run implications for individual and social well-being. Therefore, current studies of well-being found that a person's relative income position is a strong predictor of life satisfaction, happiness and self-rated health (Clark et al., 2008; Subramanyam et al., 2009; Kahneman and Deaton, 2010).

In terms of a nation's economic performance, it is usually assessed by per capita Gross Domestic Product (GDP). Economists use many different methods to measure how fast the economy is growing based on the achievement of economic objectives. These objectives can be short-term, such as economic stabilisation (economic shocks) or long-term, such as sustainable growth and development. Despite the challenging global economic and financial environment, the Malaysian economy demonstrated resilience and recorded a respectable growth of 4.7% in 2018 (BNM, 2018). In terms of private consumption, it recorded the fastest pace of expansion since 2012, with 8.1% in 2018 compared to 7.0% in 2017. It is driven by the fixing of the retail fuel price of RON95 petrol, special payments to civil servants and pensioners and lent further support to consumer spending. All these incentives have been made by the government to alleviate the cost of living pressure (BNM, 2018). Malaysia recorded a GDP per capita of RM38,830, which is higher than RM37,104 for 2015. This benchmark is useful in the context of a comparison of economic achievement among countries but does not reflect the economic well-being of every resident.

Private consumption can also be defined as personal consumption, household (consumer) expenditure or personal consumption expenditure (PCE), which measures household spending on goods and services. It includes all purchases made by households such as food, housing (rents), clothing, education, health and so on. A dictionary of economics defined private consumption as 'spending on non-durables, which are goods and services for immediate enjoyment, and spending on durables such as cars, which are expected to provide services over a number of years' (Hashimzade et al., 2017). The spending on household consumption accounts for between half and two-thirds of GDP in most countries, and it is the engine that drives economic growth. Based on Magnus (2015), the growth of the standard of living can be elaborated by the multiplication of private consumption. This circumstance is

applied to a monetary perspective while from a micro-level perspective, use and purchase of commodities are assumed to produce well-being.

Based on the Malaysian Household Expenditure Survey (HES) report, the concept of 'household' refers to 'a person or group of people whether related or unrelated who usually live together in living quarters and make provisions (expenses) for food and necessities of life together' (DOS, 2016). While from the perspective of household consumption expenditure, it is defined as 'the value of consumer goods and services acquired, used or paid for by a household through direct monetary purchase, own-account production, barter or as income in kind for the satisfaction of the needs and wants of its members.' While, the classification of household consumption expenditure which covers the 12 main groups of good and services is based on the United Nations and Framework for Statistics on the Distribution of Household Income, Consumption and Wealth, 2013 published by Organisation for Economic Co-operation and Development (OECD) (HES, 2016).

Nearly 60% of households have more than one breadwinner. This highlights how more people are required to work to sustain their livelihood. A study by Khazanah Research Institute (2016) on poverty and household income showed that 35% or 2.2 million Malaysian households earn more than RM6,000 while 64% (4.16 million) earn less than RM6,000. A further 767,000 or almost 12% earn RM2,000 or less, and these are the ones who have the potential to be exposed to many unexpected risks in the face of high costs of living. Figure 1 compares the main sources of income for heads of households in 2012, 2014 and 2016 whereby a large portion comes from paid employment (66.6% in 2012, decreased to 65% in 2014 and decreased again in 2016 by 63%), followed by self-employment (17.2% in 2012 decreased to 16.0% in 2014 and decreased again by 15.6% in 2016), property and investments (9.7% in 2012 increased to 11.4% and 12.9% in 2014 and 2016 respectively) and lastly, current transfers received (6.5% in 2012 increased to 7.6% and 8.5% in 2014 and 2016 respectively). In terms of shares of household's sources of income among B40, M40 and T20 paid employment and self-employment were the two most important sources of income from 2012 to 2016. On the other hand, the share of a household's income from property and investment and current transfer (explained by government aid and family's transfer) changed with increasing and declining trends for 2012 to 2016. These trends are illustrated in Figures 2 to 4.

Paid employment is the largest source of household income for the T20 and M40 groups, accounting for around 69.9% to 72.8% for 2009, 2012 and 2014. In contrast to the B40 income group, it accounted for only 48.1% to 49.5% within the period. All three income groups recorded 'self-employment' as their second-largest source of income, followed by property and investment by the T20 and M40. Surprisingly, the B40 income group allocated

their source of income in property and investment as a last resort rather than the current transfer received.

Figure 1. Main source of income for heads of households, 2012, 2014 and 2016 (percentage)

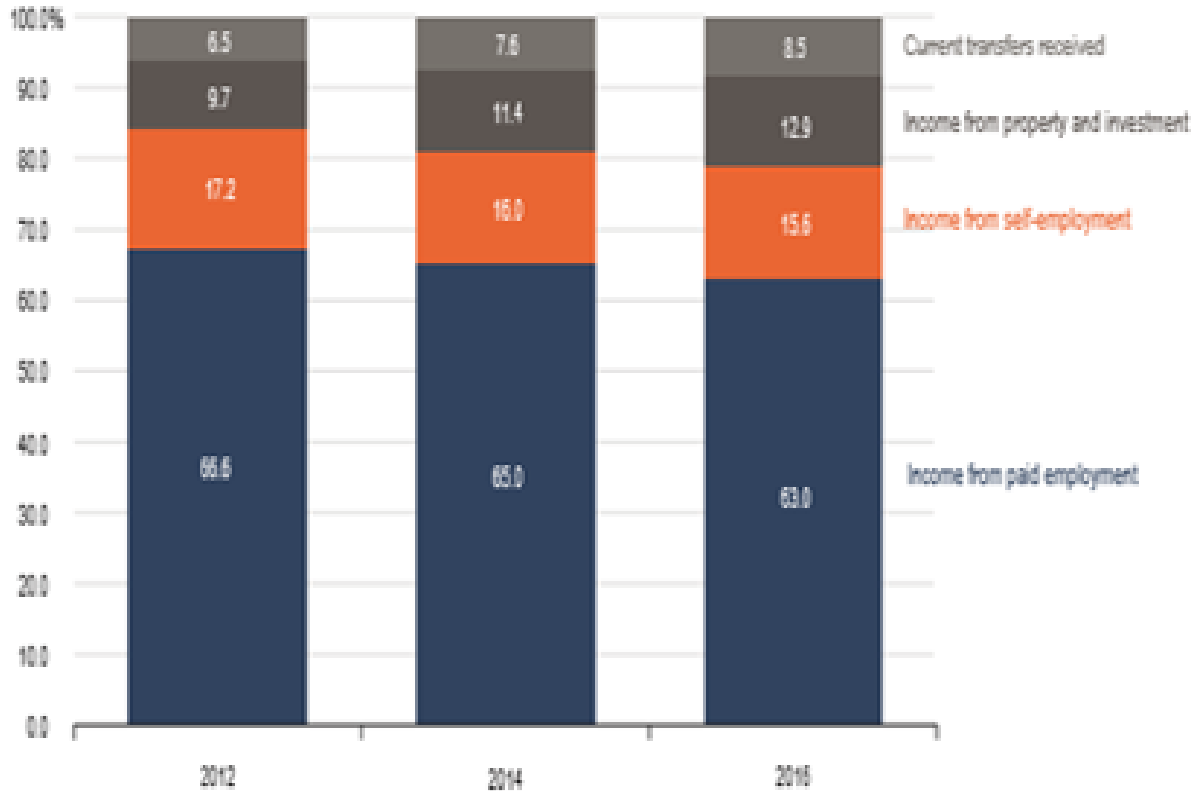


Figure 2. Sources of household income for the B40 households, 2009 - 2014 (percentage)

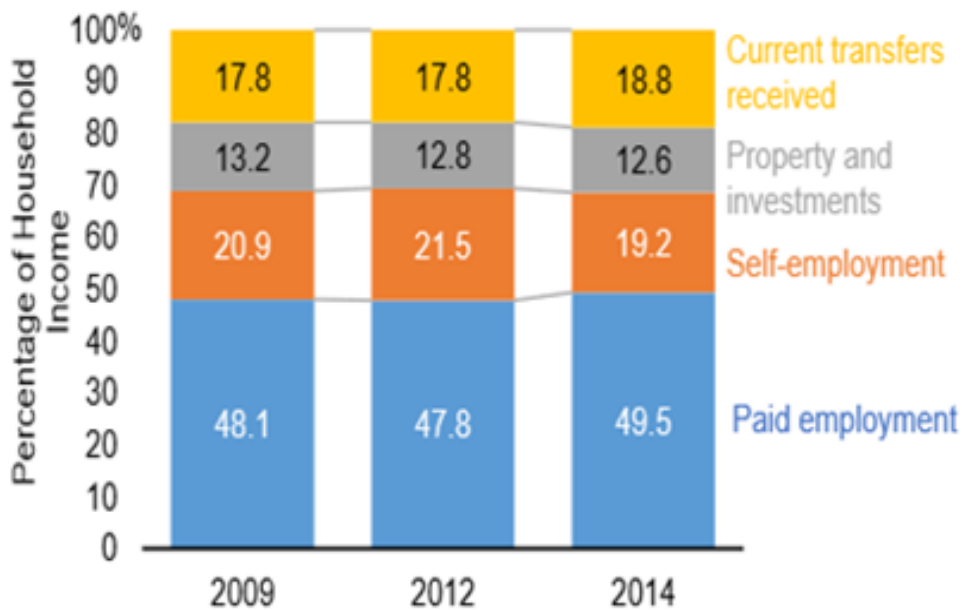
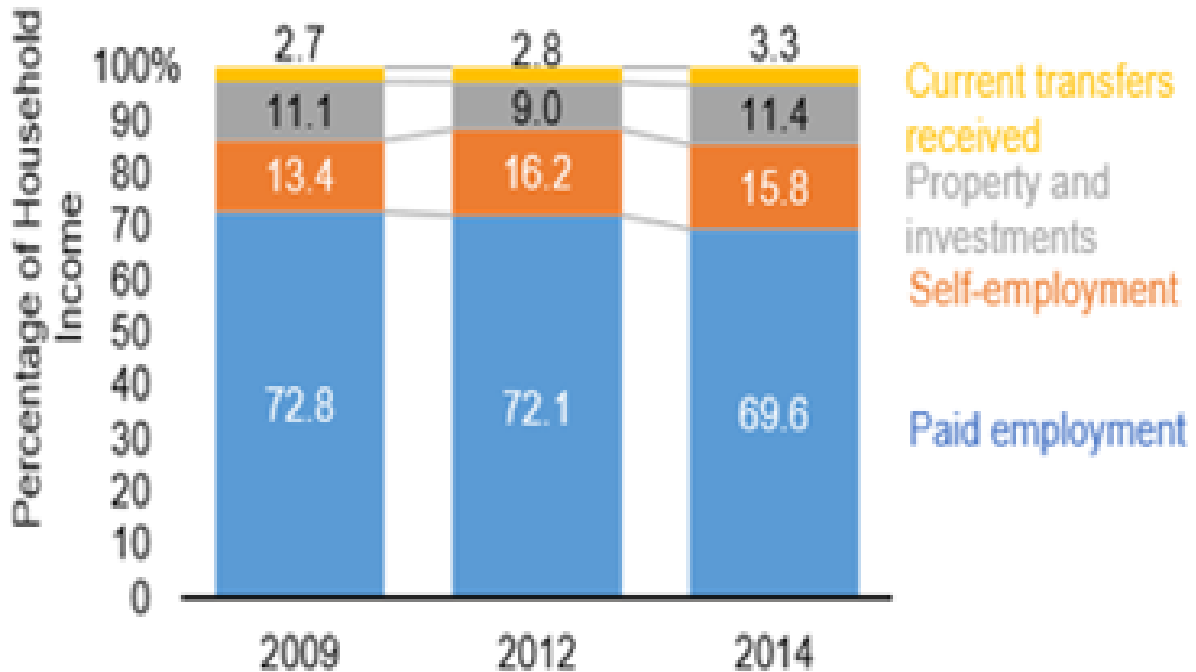


Figure 3. Sources of household income for the B40 households, 2009 - 2014 (percentage)



Figure 4. Sources of household income for the T20 households, 2009 - 2014 (percentage)



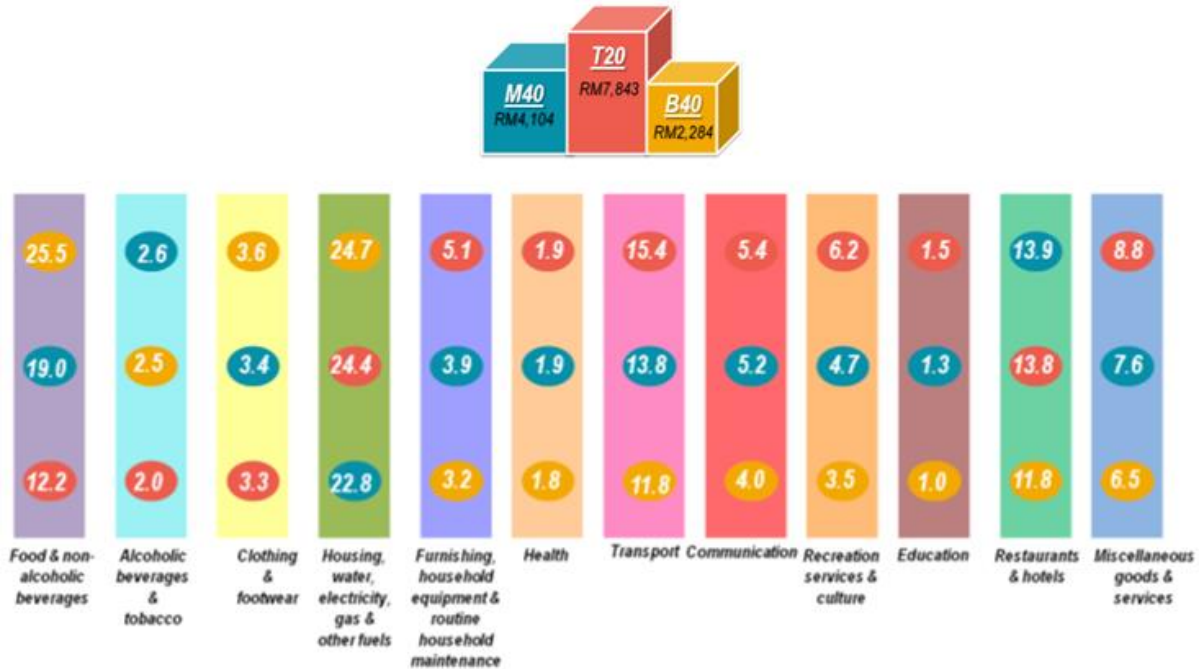
Source: DOS (2012-2016), Khazanah Research Institute (2018)

Different income groups have different expenditure consumption, so the detailed list of goods and services are constructed based on the consensus-building that reflects the needs of particular households (Davis, 2015). In Malaysia, there are three groups of income level

which are defined as the Top 20% (T20), Middle 40% (M40) and Bottom 40% (B40). The bottom 40% income group refers to those households with incomes below RM4,360 per month in 2016, while households that earned between RM4,360 and RM9,619 per month are in the middle 40% and top 20% for those households that earned above RM9,619. In the context of household income and consumption, each income group represents different types of consumption expenditure. Knowledge of this is critical for assessing the economic improvement of the population. It is essential to obtain a firm understanding of the reasons underpinning the diversity in household incomes and consumption expenditure. There are many reasons to show that the improvement in statistics for household inequality has not trickled down to perceptions on the ground, even if it has been improved from conventional measures. Findings show that the actual differences between the top 20% household versus middle 40% and the bottom 40% have almost doubled in household income for the past two decades (Khazanah Research Institute, 2018).

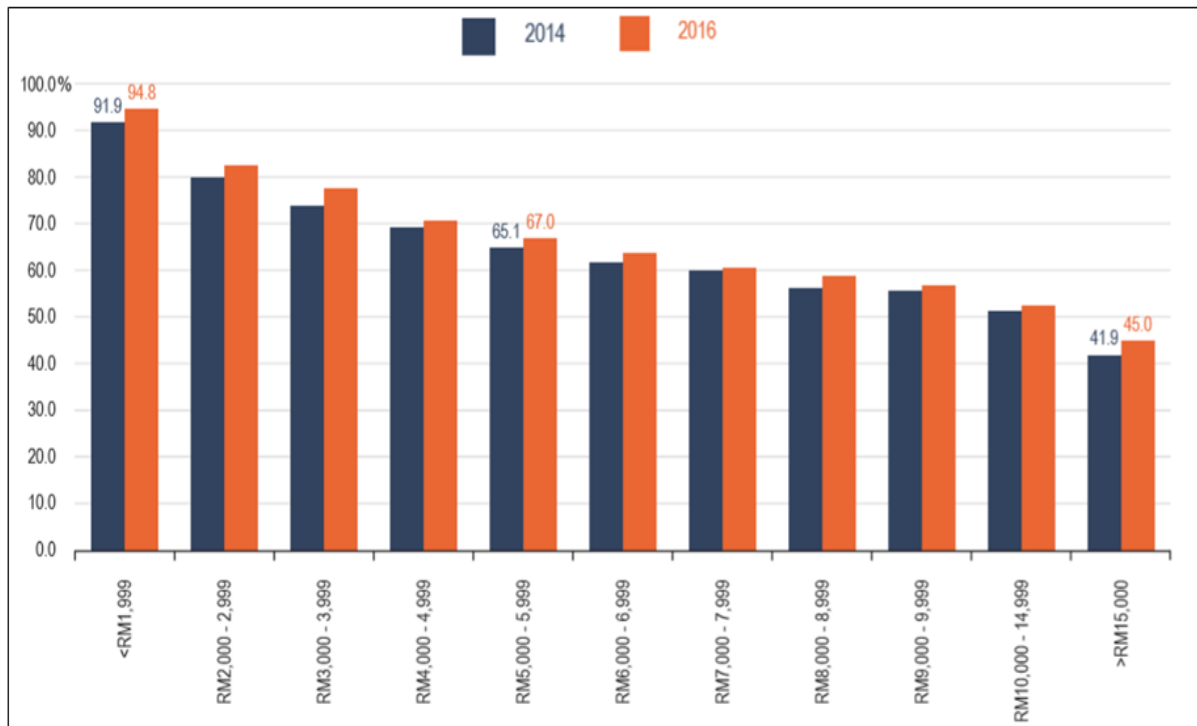
Figure 5 provides 12 components of monthly household consumption expenditure by household income groups such as food & non-alcoholic beverages; alcoholic beverages & tobacco; clothing & footwear; housing, water, electricity, gas & other fuels; furnishing, household equipment & routine household maintenance, health, transport, communication, recreation services & culture, education, restaurants & hotels and lastly miscellaneous goods & services (DOS, 2016) in order to explain different types of consumption expenditures. Based on the Household Expenditure Survey 2016, the highest component among the B40 is 'food & non-alcoholic beverages' with 25.5%. While, the highest composition for the M40 and T20 is 'housing, water, electricity, gas and other fuels' with 22.8% and 24.4% respectively. The composition for 'clothing & footwear' and 'health' portrayed a similar pattern among these three income groups. The average size of a household in 2016 was 4.1 persons which have been declining since 1980 with 5.2 persons (Khazanah Research Institute, 2018).

Figure 5. Composition of Monthly Household Consumption Expenditure by Household Income Group, Malaysia, 2016



Historically, the average household expenditure consumption has increased from RM1,161 in 1993 to RM4033 in 2016. On the other hand, the household income has been growing slightly faster than expenditure with mean household expenditure at 5.6% per year since 1993. In the same period, mean household income has grown by 6.3% per year, meaning that household expenditure has grown accordingly with mean household income year by year. In terms of household expenditure as a percentage of household income, a decreasing pattern has been shown from 1993 to 2009 with 68.1% (1993), 64.2% (1998), 60.1% (2004), 54.4% (2009) and increasing again by 58.3% (2014) and dropped to 58.0% (2016) (Khazanah Research Institute, 2018). The proportion of household expenditure per household income with different income classes can be shown in Figure 6. Households with incomes below RM2,000 spent 91.9% (2014) of their income in consumption expenditure and increased to 94.8% in 2016. While, for those earning monthly incomes above RM15,000 only spent 41.9% in 2014, increasing to 45% of their incomes in 2016. In addition, the real residual income (income remaining after inflation) for households with incomes below RM2,000 decreased by 38.7% from RM124 in 2014 to RM76 in 2016. On the other hand, the middle and top classes did not suffer much decline as they only recorded a reduction of 9.00% (RM1990 in 2014 to RM1811 in 2016) and 9.4% (RM14,458 in 2014 to RM13,100 in 2016). It underscores the reduction of residual income for all household income groups due to the changes in quantity consumed and changes in expenditure (DOS, 2016; Khazanah Research Institute, 2018). It is increasingly worrying for household income below RM2,000 as they are exposed to various risks such as financial hardship, economic shocks and others.

Figure 6. Share of Expenditure to Household Income, 2014-2016



Sources: DOS, 2016; Khazanah Research Institute, 2018

Possible Causes of Rising Income Inequality and Differences in Consumption Expenditure

Household income and consumption expenditure can be linked to an individual’s quality of life. While, the cost of living is closely related to the standard of living, which in turn, will lead to increased consumption expenditure (Aqmin et al., 2018). The advancement of a country will lead to improved quality of life with higher prices of goods and cost of living (Petras & Veltmeyer, 2007).

Based on the discussion above, the cost of living was a key factor affecting household expenditure patterns. The Consumer Price Index (CPI) in the years 2014 to 2016, significantly showed how lower-income and higher-income groups interact for certain expenditures. This is most telling with regards to food expenditure for the lower-income group, which reduced their consumption expenditure in several expenditure categories, especially those that are more discretionary (Khazanah Research Institute, 2018).

Aqmin et al. (2018) discussed the cost of living factor with reference to ‘the slow growth in income as compared to inflation’ and ‘the unproportionate increase in the standard of living as compared to income’. Their findings showed that income growth has indeed surpassed the



inflation rate year by year, followed by the increased standard of living at a comparatively fast rate.

Most Malaysians face a range of problems especially for those living in urban areas. They are struggling with the rising cost of living, fluctuations in market and fuel prices, and an unstable Malaysian currency among others. The majority claimed that the driver for the skyrocketing cost is the implementation of the Goods and Services Tax (GST). Thus, the government introduced the 'Bantuan Rakyat one Malaysia' (BR1M) to ease the burden of the lower-income group in Malaysia in 2013. In the first year, RM2.6 billion was disbursed to around 5.2 million households, which represents most of the Malaysian households. The findings of a survey showed that 93% of respondents who were eligible for BR1M said the government hand-outs were not sufficient to assist them in coping with the rising cost of living. The survey shows that more than half want more subsidies from the government rather than BR1M hand-outs (The Sun Daily, 2015).

The implementation of GST beginning in April 2015, combined with the recent abolishment and reduction of both the fuel and road toll subsidies had many Malaysians reeling from the sudden increase in their expenses especially those with huge families. Based on The Sun Daily (2015), about 65% of the survey respondents believe that GST has severely affected their finances and blame GST and the lack of proper execution for the escalating cost of living. While 80% of respondents want the government to reduce the GST rate. In terms of prices, 68% want authorities to improve price regulation to deter errant businesses from rampantly increasing their prices.

On the other hand, Malaysia is witnessing increasing indebtedness among its households whereby a large portion of their income is used to meet their needs and requirements, but sometimes their income is not enough to pay for all these needs. This situation has caused many households to borrow, and thus household debt in Malaysia has been increasing over the years.

According to Bank Negara (2013), the ratio of household debt to Gross Domestic Product (GDP) in 2013 for Malaysia is 86.8%. This figure has made Malaysia one of the countries with the highest household debt in the Asia Pacific region (Bank Negara, 2013). This is the starting point from which to understand the pattern of consumer behaviour in order to identify the causes of existing consumption patterns and making recommendations to achieve sustainable consumption (Sharifah et al., 2005). There are three main factors contributed to the increase in household debt is insufficient household income, luxurious lifestyle and poor credit management (Amir Baharuddin, 2010). The need for material goods has been diffused into the soul of every community whereby the production economy has offered an increasing variety of goods and services that are now prevalent in the market (Basri, 2003). According

to Aulia (2010), consumerism is a rising phenomenon with an alarming trend towards a very high utilisation rate in the society.

Methodology

The analysis for this research is based on cross-sectional data obtained from questionnaires distributed to 635 Malaysian households in eight districts in Terengganu (urban and rural areas including Redang Island and Perhentian Island) by using stratified random sampling. The questionnaire contains eight major components. Section A contains the characteristics on demographics; Section B referring to profile of family members; while Section C referring to information on sources of income of the household head; Section D contains questions on consumption allocation by categories; Section E is about savings; Section F regarding information on household consumption patterns; lastly Section G concerns the quality of life among the households. Likert scale responses varying from strongly agree to strongly disagree were employed.

The household expenditure pattern was analysed and presented accordingly with the Report on Household Expenditure Survey which covers the nine main groups of goods and services. It is classified based on the 'Classification of Individual Consumption According to Purpose' (COICOP) published by the United Nations Statistics Division (UNSD).

Multinomial logistic analysis will be used to identify the main components of expenditure incurred by B40, M40 and T20 income groups. According to Kenneth (2012), multinomial logistic analysis is used when the dependent variable is in the form of categories in which there are more than two categories while the independent variables consist two types, which are covariates and factors. The independent variables need to be in the form of categories while the independent variables in covariates should be continuous. This analysis uses covariate type variables that involve data in a continuous form of total spending. The model for the multinomial logistics analysis in this study was adapted from the formula used by Kenneth (2012) which can be seen through the following equation:

$$\log\left(\frac{\pi_i^{(j)}}{\pi_i^{(0)}}\right) = \alpha^{(j)} + \beta_1^{(j)}X1i + \dots + \beta_k^{(j)}Xki + \mu \quad (1.1)$$

The formula by Kenneth (2012) above is adapted into this study in equations (1.2) and (1.3) below:

$$\begin{aligned} \text{Log}\left(\frac{\pi_i^{M40}}{\pi_i^{B40}}\right) = & \alpha^{M40} + \beta_1^{M40} \text{Food} + \beta_2^{M40} \text{Cloth} + \beta_3^{M40} \text{Trans} + \beta_4^{M40} \text{Home} + \beta_5^{M40} \text{Uti} + \\ & \beta_6^{M40} \text{Health} + \beta_7^{M40} \text{Edu} + \beta_8^{M40} \text{Recr} + \beta_9^{M40} \text{Com} + \mu \quad (1.2) \end{aligned}$$

$$\text{Log}\left(\frac{\pi_i^{T20}}{\pi_{B40}^{T20}}\right) = \delta^{T20} + \delta_1^{T20} \text{Food} + \delta_2^{T20} \text{Cloth} + \delta_3^{T20} \text{Trans} + \delta_4^{T20} \text{Home} + \delta_5^{T20} \text{Uti} + \delta_6^{T20} \text{Health} + \delta_7^{T20} \text{Edu} + \delta_8^{T20} \text{Recr} + \delta_9^{T20} \text{Com} + \mu \quad (1.3)$$

In this paper, the reference category (reference category) is based on the B40 income group. Formula (1.2) shows the M40 income group expenditure model based on the B40 income group reference category. Whereas Formula (1.3) shows the T20 income group's expenditure model based on the B40 income group as a reference category.

$$\text{Log}\left(\frac{\pi_i^{M40}}{\pi_{B40}^{M40}}\right) = \text{M40 income group expenditure based on income category reference group B40.}$$

$$\text{Log}\left(\frac{\pi_i^{T20}}{\pi_{B40}^{T20}}\right) = \text{T20 income group expenditure based on income category reference group B40.}$$

While the specifications for the independent variables of the model (1.2) and (1.3) are:

Food = Food Expenditure
Cloth = Clothes Expenditure
Trans = Transportation Expenditure
Home = Housing Expenditure
Uti = Utilities Expenditure
Health = Health Expenditure
Edu = Education Expenditure
Recr = Recreation Expenditure
Com = Communication Expenditure

Result and Findings

The total observations used in the multinomial logit model were 633. Table 2 shows the number of observations for which the B40 was assigned as a reference category of which M40 and T20 were compared with regards to food, clothes, transportation, housing, utility, health, education, recreation and communication. The marginal percentage is determined by dividing the total observation for each group. Based on total observations, 408 (64.6%) categorised as (B40) income group, 173 (27.4) as a middle (M40) income group and 51 (8.1%) referring to (T20) income group.

Table 2: Marginal (Percentages) Effects

Groups	Number of Respondent	Marginal Percentage (%)	Cumulative Percentage (%)
B40	408	64.6	64.6
M40	173	27.4	92.0
T20	51	8.1	100.00

The associations between the predictor variables and the intercept were determined using the chi-square test. As illustrated in Table 2, predictors such as food, transportation, utility, recreation and communication have significant ($p < 0.05$) associations with income distributions of the subjects while clothes, health, education and housing showed insignificant ($p > 0.05$) association with subject income distribution. Having established the associations between the predictors and the intercept the next section deals with the estimation of the multinomial regression to ascertain the effect of each individual variable on the constant.

Table 3: Chi-square association between the predictor's variable

Predictors	Chi-Square (χ^2)	Df	P-Value
Intercept	364.294	2	.000
Food	28.769	2	.000***
Clothes	3.475	2	.176
Transportation	6.500	2	.039*
Housing	.979	2	.613
Utility	16.113	2	.000***
Health	2.061	2	.357
Education	.334	2	.846
Recreation	7.545	2	.023*
Communication	9.088	2	.011*

* Significant at the level of 0.10

** Significant at the level of 0.05

*** Significant at the level of 0.01

The researcher has performed a multinomial logistic regression to model the relationship between the predictors and membership in the three groups (people with lower-income levels, people with medium income level and people with higher income levels). The overall predictive power was within an acceptable requirement. Thus, the study revealed the following predictive powers e.g. 26.9% score for Cox and Snell R², 33.1% score for Nagelkerke R² and 18.6% score for McFadden R². The traditional .05 criterion of statistical significance was employed for all tests. Besides, the predictors to a model that contained only the intercept significantly improved the fit between model and data (18, N = 635) = 198.073

and accurately classified 70.9% of the cases. Therefore, the model was considered fit and adequate for multinomial regression.

Table 4: Model Fitness

Pseudo R2	
Cox and Snell	.269
Nagelkerke	.331
McFadden	.186
2 log-likelihood	($\chi^2 = 198.073^*$)
Overall Classifications	70.9%

*= P<0.01

Table 5 shows the multinomial logistic regression for the M40 and T20 income groups compared to the B40 income group. The findings show that the main expenditure components for the M40 income group are food, clothing, transportation, housing and health expenditure. While the main expenses incurred by the T20 income group are food, transportation, utilities and communications.

Table 5: Multinomial Regression Coefficient (M40 and T20 Versus B40 Income Group)

Predictor	M40			T20		
	Beta (β)	Odds Ratio Exp(B)	P-value	Beta (β)	Odds Ratio Exp(B)	P-value
<i>Intercept</i>	-2.813			-5.208		
Food	.001	1.001	.000***	.002	1.002	.000***
Clothes	.005	1.005	.070*	.005	1.005	.112
Transportation	.001	1.001	.014**	.001	1.001	.046**
Housing	.001	.999	.358	-.001	.999	.424
Utility	.004	1.004	.000***	.005	1.005	.001***
Health	.001	1.001	.456	.003	1.003	.153
Education	.000	1.000	.857	-.001	.999	.706
Recreation	.001	1.001	.418	.002	1.002	.187
Communication	.005	1.005	.010***	.006	1.006	.006***

References Category: B40

* Significant at the level of 0.10

** Significant at the level of 0.05

*** Significant at the level of 0.01

The results show that the middle income group (M40) compared to the lower-income group (B40) in the expenditure on food and housing showed significant value ($\beta = 0.001$, p-value <0.05) for both expenditure components. The odds ratio for a unit increase in food expenditure for the M40 income group compared to the B40 income group assuming that other variables in the model are constant. If the respondents' income increased by one percent, the food expenditure for the M40 income group compared to the B40 income group is expected to increase by 1.001 as the other variables in the model are constant. Housing expenditure shows that if the respondents' income increases by one percent, the relative cost of housing for the M40 income group over the B40 income group is expected to increase by 0.999 as other variables in the model are constant. This is supported by the study of Abdul Wahab et al. (2018) stating that the M40 income group incurred expenditure on food and housing exceeding the B40 income group due to an increase in their standard of living.

For the T20 income group as compared to the B40 income group, the components of expenditure on food are their top priority. The results showed significant value ($\beta = 0.002$, p-value <0.05) in food expenditure between high-income groups (T20) and lower-income groups (B40). The odds ratio for a unit increase in food expenditure for the T20 income group compared to the B40 income group assuming the other variables in the model are constant. If the respondents' income increased by one percent, the relative cost of food for the T20 income group compared to the B40 income group is expected to increase by a factor of 1.002 if other variables in the model are constant. This is supported by the findings of Noorhaslinda et al. (2018) stating that the T20 income group spends RM 596 per month on food expenditure compared to the B40 income group spending RM 397 per month on food expenditure.

In addition, clothing expenditure showed significant value ($\beta = 0.005$, p-value <0.05) between the middle income group (M40) and the lower-income group (B40). The odds ratio for a one unit increase in clothing expenditure for the M40 income group compared to the B40 income group assuming that the other variable in the model is constant. If the respondents' income increases by one percent, the expenditure on clothing relative to the M40 income group compared to the B40 income group is expected to increase by factor 1.005 as other variables in the model are constant. The findings of this study are supported by Noorhaslinda et al. (2018) study that the M40 income group spends RM 38 per month with an average of RM 5.61 compared to the B40 income group of RM 32 per month with an average of RM 4.90.

Subsequently, for the expenditure on transportation by the M40 and T20 income groups as compared to the B40 income group, the significant value is ($\beta = 0.001$, p-value <0.05). The odds ratio for an increase unit in transportation expenditure for the M40 and T20 revenue groups compared to the B40 income group assuming the other variables in the model are

constant. If the respondents' income is increased by one percent, relative freight spending for the M40 and T20 income groups compared to the B40 income group is expected to increase by a factor of 1.001 as other variables in the model are constant. This is supported by the Household Expenditure Survey Report (2016) which shows that expenditure on transportation of the T20 income group is 15.4% of their monthly expenses compared to the B40 income group of 11.8%. The M40 income group also indicates that they allocate expenditure on transportation more than the B40 income group.

Recommendation

This research provides a long-term perspective of the changing trends in inequality and by touching briefly on how the standard measure of inequality in Malaysia could be improved to better reflect our economic reality. Major components of overall expenditure across three income groups of B40, M40 and T20 can be explained by food, transportation, utilities, health, housing, clothing and communication. This is supported by a report from Bank Negara Malaysia (2010) stating that based on household consumption data during the period 2000-2009, it shows that expenditure on food is the largest component that accounts for about 23% of total household expenditure.

Transportation expenditure is also a significant component of total expenditure, which includes the purchasing of vehicles, vehicle oil, public transport fares and so on. Today, it seems necessary to facilitate the journey and smoothness of a person's life. The Business Monitor International (2017) showed that spending on food, utilities, transportation and communications represents 59% of the total expenditure incurred by households. Additionally, spending on recreation increased due to an increase in total income. The findings show that spending on food, utilities, transportation, communication and recreation has a significant impact on B40, M40 and T20 income groups.

In summary, the major components of expenditure incurred by the B40, M40 and T20 income groups are expenditure on food, clothing, housing, health, transportation, utilities and communications. This clearly shows that a person will meet basic expenses such as food and will spend on requirements that add value and comfort to them such as transportation expenses like buying luxury vehicles. Total expenditure on living goods will increase in line with the increase in income earned by households. Hence, it shows that in today's lifestyle, the expenditure that provides convenience and comfort is important if it is not excessive and in accordance with the teachings of Islam.

The findings of this research will help the government in forming sustainable consumption policies for each of the economic subgroups (high, moderate and low-income). The new policy is better suited to be used in Malaysia as it is based on the values, attitude and spiritual

context of the Malaysian society. The findings will also help the government in better assessing the impact of economic crises on the different subgroups. In addition, the implementation of public education strategies and policies should be tailored to the target audiences to ensure its effectiveness. The implementation of law and regulation by the local, state and federal government agencies will ensure the objective of sustainable consumption successfully achieved.

The findings will help the government in better assessing the impact of economic currents on the different subgroups in order to maintain their survivability. By exploring the ‘Survivability Indicators’ in this research, it is hoped that this aspect can be one of the indicators of the existing ‘Malaysian Quality of Life’.

The direct and indirect research outcomes in this study are significant to recommend policy for improving the quality of life and standards of living. The findings of the study can help policymakers formulate relevant policy for producers and consumers to achieve long-term benefits. The most important contribution is potentially improving the existing ‘Malaysian Quality of Life Index’.

The Malaysian household could be educated on how to spend their income and expenditure wisely. Elevating sustainable consumption to the necessary level of policy and decision-making will require work on education and awareness-rising among consumers, civil society, private sector and policymakers.

Conclusion

By way of conclusion, the most important point to be highlighted is ‘industry’. It is a key contributor that creates the conditions to overcome the inequality issues in both developed and developing countries. Industrial development can be achieved through efficiency and productivity, job opportunity, increased incomes, social mobility improvements and other positive perspectives. The benefits of this prosperity must be shared more equally within societies especially in different income groups and demographic background.

In addition, it is critical to identify the poor and vulnerable targeted groups in order to implement functioning welfare systems. It can be an effective measure by reducing inequality in incomes and expenditure consumption from different locations, ethnicity, urbanisation and social welfare policies. Programmes to increase rural household income (especially for B40 income group) will focus on improving their skills, connecting them to employers near clusters and the city through better relationship and support for their work with industry linkages. In line with government industrial policies, these efforts will commercialise rural-based activities towards market needs, economies of scale and value chain integration.



Future government reform should carefully design programmes while avoiding wasteful spending and negative externalities. In addition, it will be necessary to address the underlying structural causes of inequality. These include, but are not limited to, long-standing problems in the educational system, growing labour market dualism and low productivity in the service sector. We believe that our results can contribute to an enhanced targeting of future policies.

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