

Malaysian Spending Patterns Prior to Goods and Services Tax (GST) Implementation

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Abstract — The study is to examine whether Malaysian consumers have the fair knowledge about GST, is there a strong association between gender and spending patterns, and do demographic factors strongly influence level of spending among Malaysian consumers were issues addressed in this study. 730 respondents were selected and interviewed using a structured questionnaire a week after the implementation of GST. Study findings showed that Malaysian consumers do have fair knowledge about GST and will still give priority to accommodation, followed by groceries, food, transportation, clothing, communications/internet and entertainment. There were no strong association between gender and spending patterns. However, age and work sectors appeared to significantly influence the pattern. Based on our Logistics Regression Analysis, we predict that people would not spend after GST is implemented, thus, the implementation of GST will not get its desired results. We proposed that the Ministry of Finance, among other measures, should consider adding more products/ services in zero-rated basket.

Keywords — GST, consumption, crosstab, binomial regression

1. Introduction

Tax policies play an important role on the economy of a nation by generating revenue that can support government expenditure on public services and infrastructure development. April 1, 2015 is the commencement of a new system of taxation in Malaysia, namely GST (Goods and Services Tax) which is also known value added tax (VAT) in many countries. The Royal Malaysian Customs Department is the administrator of GST.

To date, GST has been implemented for a period slightly over a year. In the early stages of GST implementation there will be many issues and concerns to the businesses and consumer in Malaysia. As a proactive measure, the [1] published 358 pages on a collection of frequently asked questions and answers related to the legal requirements and implementation of GST for various industrial sectors. As the main player in the economy sector namely consumer/household and businesses must be able to answer common questions about GST, such as “What is GST?”, “Is GST a new consumption tax?”, “Why the sales tax and service (SST) need to be replaced with GST?”, “What benefits will people get?” and others.

This paper attempted to address pertinent issues relating to GST implementation. Do Malaysian consumers have fair knowledge about GST, is there a strong association between gender and spending patterns, and do demographic factors strongly influence level of spending among Malaysian consumers were the issues addressed here.

2. Literature Review

The word consumption is such a significant word and concept in the Economics discipline. It generates growth and national income of the nation. Consumption can be defined in different ways, but the most layman terms would be described as the final purchase of goods and services by individual. The most famous and well-known consumption theory is the Keynesian theory. Keynesian economics is a theory of total spending in the economy (called aggregate demand) and its effects on output and inflation. A Keynesian believes that aggregate demand is influenced by a host of economic decision, both public and private. The

public decisions include, most prominently, those on monetary and fiscal (i.e., spending and tax) policies [2]. This theory also states that current real income is the most important determinant of consumption. In simple understanding, we spend according to how much income we have plus the type of economics goods; necessity or luxury goods. Beside real income, there are many factors affecting consumption such as price, saving, consumer confidence, economic stability and may others. However, in the context of this study, we will look into how taxes affect consumption and the decision to purchase products and services.

[3] reported that low income household are worried that GST will increase the prices of goods in the future and living costs will increase significantly when GST is implemented. Meanwhile [4] found that the rich will benefit more because they save more and spend less compared to those in the lower income group who have larger marginal propensity to consume. Although GST contributes to the nation welfare, there are many arguments against its implementation. A survey was conducted by [5] and the result revealed that 62% of accountants were against GST. His results concurred with that conducted by the Hong Kong Institute of Certified Public Accountants (“HKICPA”) [6] where more than 50% of accountants reject GST. Among the reasons are: (i) the tax base is not narrow and the deficits are not structural, (ii) GST is an unfair tax, and (iii) the Government would overspend after implementing GST.

3. Methodology

730 Malaysian participated in this study. They were selected based on convenient sampling technique, and interviewed using a structured questionnaire, one week after the implementation of GST. Data were collected by students in the Faculty of Communication and Media Studies, Universiti Teknologi MARA, as one of the requirements for the Quantitative Data Analysis for Communication Research (COM570) course. Students were divided into groups of 6 persons and each of them need to interview at least 5 -7 respondents. This is necessary in order to have at least 30 respondents to analyse the data using Statistical Packages for Social Science (SPSS).

Basically, the students enjoy doing the field survey but since it was just implemented most of the respondents was in a reluctant mood and not happy with the newly implemented tax system.

Data were analyzed twice. The first method is basically to run a cross tabulation between gender and ‘I would spend as usual even though there is GST’ (dichotomous variable Yes/No). The second method utilised the binomial logistic regression. This is an attempt to predict the probability that an observation falls into one of two categories of a dichotomous dependent variable based on one or more independent variables that can either be continuous or categorical. In this case, the dependent variable is on the willingness to spend even though there is GST. The independent variables are age, gender, work sector and education. In this model, the variables were coded and categorized as below;

- I would spend as usual even though there is GST (0 = No, 1 = Yes)
- Age – (age in years)
- Gender - (female=0, male=1)
- Work sector - (public = 0, private =1)
- Education - (Non College = 0, College = 1)

Hence a nonlinear transformation, log odds (Logit), is applied to the DV which is then expressed as a linear function of the IVs in the following manner [7]:

$$\ln \left[\frac{p}{1-p} \right] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 \quad (1)$$

p = probability of spending even though there is

GST, $\left[\frac{p}{1-p} \right]$ = odds ratio

If probabilities of the spending even though there is GST, the logistic regression can be written as:

$$p = \frac{\exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4)}{1 + \exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4)} \quad (2)$$

4. Finding and Discussion

4.1 Descriptive Analysis

The study managed to interview 730 consumers. The aim is to grasp some insights on their level of

understanding about GST. Data was collected one week prior to the implementation of GST. Table 1 reveals that Malaysian in general have good knowledge of GST; understand what is GST (85.6%), acknowledge that it is lower than previous tax (66.6%), agree that GST contributes some benefits (54.8%), and GST will improve compliance and reduce leakages (55.2%). Nonetheless, respondents do not agree with the change in tax structure (67%) and many will reduce expenditures (52.5%).

Table 1: General Questions on GST

Statements	Yes % (N)	No % (N)
GST is a consumption tax which means that the tax will be charged only if consumers consume the product	85.6 (625)	14.4(105)
GST rate is lower (6%) compared to the previous sales tax (5% and 10%)	66.6 (486)	33.3 (243)
I agree with the change in tax structure which was implemented on 1 st April 2016	33.0 (241)	67.0(486)
I would spend as usual though there is GST	47.5(347)	52.5(383)
Unlike the present sales tax, consumers would benefit under GST as they know goods are subject to tax and amount to pay	54.8 (400)	45.2(330)
Improve compliance and reduce leakages in country tax collection	55.2(403)	44.8(327)

Table 2 gives a breakdown of the demographic profiles of the respondents. From a total of 730 respondents, there are 361 males and 369 females, with more than 50% in the age of 30 years old and, are considered as young. Majority of the respondents are Malays (56%) with and incomes of

below RM1500 (46%) and below RM6000 (44%), and mostly have college education (73%).

Table 2: Demographic Profile

	Frequency	Percent
Gender		
Male	361	49
Female	369	51
Race		
Malay	406	56
Chinese	158	21
Indian	151	21
Others	15	2
Age group		
Less than 30	401	59.9
More than 30	329	40.1
Work Sector		
Public	136	19
Private	191	27
Self-employed	161	22
Students	192	26
Unemployed	50	7
Education		
SPM & lower	200	27
Diploma and above	530	73
Salary		
Below RM1500	336	46
RM1500- 6000	315	44
RM6001 above	79	10

Table 3 shows that accommodations contribute a big proportion to the household income, as the issues of rental housing affordability and dramatic increase in housing price. Accommodation has the highest mean (RM493.40) with a range of RM14,000.00. The second highest monthly expenses were groceries followed by food with a mean rank of RM375.11 and M328.67 respectively. People need to eat food everyday by eating out or home cook meal. Basically, these goods are considered as a necessity and remain constant even though there is a raise in income or taxes.

Next basic necessity is transportation. In this study, it includes fuel as well as other transportation charges such as toll. This is followed by other needs such as clothing, communication/internet, and entertainment. What can be learned from Table 3 is that Malaysian consumers, with or without GST, still give priority to areas that should be given priority.

Table 3: Estimated Monthly Expense based on Mean Ranking

	Range	Mean
Accommodation	14,000	493.40
Food	3000	328.67
Groceries	4000	375.11
Fuel/transportation	3000	298.67
Clothing	1500	171.43
Communication/Internet	2000	161.23
Entertainment/Recreation	1500	153.85

4.2 Chi-square test for association and strength/magnitude

The cross tabulation, with observed and expected frequencies for each cell of the design are found in the gender*I would spend as usual, shows that for "males", the observed frequency was slightly higher than expected for "yes", and lower than expected for "no". However, a reverse pattern for "females" is found. This might lead us to suspect that there is no association between these two variables.

Table 4 shows the finding of chi-square test for association between gender* I would spend as usual even though there is GST. All expected cell frequencies were greater than five. Finding show not statistically significant association between gender and I would spend, $\chi^2(1) = 0.900, p = .343$. There was low negative association between gender* I would spend, $\phi = -0.035, p = 0.343$.

Table 4: Chi-Square Tests of Association

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Sig.
Pearson Chi-Square	.900 ^a	1	.343		

Continuity Correction ^b	.765	1	.382		
Likelihood Ratio	.901	1	.343		
Fisher's Exact Test				.374	.191
Linear-by-Linear Association	.899	1	.343		
N of Valid Cases	730				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 171.60.

b. Computed only for a 2x2 table

4.3 Logistic Regression Analysis

As with most IBM SPSS output, there is an almost overwhelming amount of information provided from logistic regression. This section only covers the key aspects of the findings. The result shown in Table 5 indicated that the chi-square for the Hosmer-Lemeshow goodness of fit is 10.497 with a significance level of 0.232. This value is larger than 0.05 therefore the model is worthwhile and supported.

Table 5: Hosmer - Lemeshow Test

Step	Chi-square	df	Sig.
1	10.497	8	.232

Table 6 provides indication of how well the model is able to predict the correct category (would spend as usual / not spend as usual) for each case. The sensitivity of the model is the percentage of the group that has the characteristic of interest (would spend as usual) which, unfortunately, is only 40.3%. Meanwhile, the specificity of the model is

Table 7: Logistic regression predicting likelihood of 'I would spend as usual even though after GST'

	B	S.E.	Wald	df	Sig.	Exp (B)	90 C.I.F.I.for EXP(B)		
							Lower	Upper	
Step 1 ^a	Age	.009	.005	3.046	1	.081	1.009	1.001	1.018
	Gender (1)	-.105	.150	.486	1	.486	.900	.703	1.153
	Work_Sector()	.335	.198	2.885	1	.089	1.399	1.011	1.935
	Educatin Level(1)	.259	.173	2.227	1	.136	1.295	.974	1.723
	Constant	-.461	.198	5.438	1	.020	.631		

a. Variable(s) entered on step 1: Age, Gender, Work_Sector, Education_Level.

the percentage of the group that would not spend; as usual is more at 66.1%. The positive predictive value is the percentage of correctly predicted cases with the observed characteristic compared to the total number of cases that would spend. In this case it was 51.85%, and the negative predictive value is 55%. Thus, the model has high predicted value. It predicts that people would not spend after GST is implemented.

The full model is being tested is:

$$\ln\left[\frac{p}{1-p}\right] = -0.461 + 0.009x_{age} - 0.105x_{gender} + 0.335x_{work\ sector} + 0.259x_{education}$$

Table 6: Classification Table^a

Observed		Predicted			Percentage Correct	
		I would spend as usual		Yes		
Step 1	I would spend as usual	No	253		130	66.1
		Overall Percentage	Yes			140
					53.8	
a. The cut value is .500						

Table 7 gives information about the contribution or importance of each of the predictor variables. The logistic regression model was statistically significant, $\chi^2(8) = 10.770, p < .0005$. Of the four (4) predictor variables only two were statistically significant: age and work sector (at 10% significance levels). Increasing age was associated with an increased likelihood of would spend as usual even though there is GST with odds of 1.00. Meanwhile, the log odds change for work sector is 0.335, which is a decrease in log odds for public sector. The result concludes that private sector had 1.39 times higher odds to exhibit would spend as usual than public sector. As for gender and education, the increase in log odds for females and degree holder, but both are not significant.

5. CONCLUSION

GST seems to have a positive impact by generating more revenue to achieve the high-income status nation. However, from many arguments, GST will increase the overall market price of goods and services. Based on consumption theory, if prices are higher, then a person's total level of consumption will be lower. As taxes on goods and services imposed on products and services, people may not be able to afford as much as they used to, as a result they will consume less. This crosstab findings also provide evidence that GST will have reduce the level of consumption as the negative predictive is higher than the positive predictive value. Study done by [7] reported that GST will give a negative impact on the consumption pattern of low-income households. The finding also confirmed that public sector worker gets the most impact and would not be spending as usual after the implementation of GST. Results of this study have many important insights for understanding the impact on general public welfare. Ministry of Finance need to provide more research funding to investigate the impact of GST to lower and middle-income households as it progresses towards the coming years. Meanwhile as a short-term measure, it is advisable that the Ministry add more products and services in zero-rated basket.

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