

Chapter 6

Conclusion

6.1 Summary of Findings

This study has been concerned with the evaluation of socioeconomic and demographic variables that determine the demand for intercity rail passenger services in Peninsular Malaysia and their implications for public policy on railway. The study was also concerned with formulation of a model that is capable of predicting mode choice between intercity rail passenger services and bus services.

The gender variable is found to be not significantly different from zero and negative in all of the binary logistic regressions. A negative coefficient for the variable gender implies that compared to a male, a female will unlikely to travel by intercity rail passenger service in comparison with intercity bus services.

Variables representing different races in Peninsular Malaysia are found to be negative and significant at a level of 1% in the regressions except for the variable representing Indians. This shows that most of the populations in Malaysia will opt not to travel by intercity rail passenger services. If they are given a choice, they will have chosen intercity bus services over rail passenger service. One of the contributing factors could be the quality of service and the amenities offered by KTMB.

The demand for intercity rail passenger service is found to be significantly affected by the variables representing age of 20 years old and above. And the coefficients are negative in all regressions. Individuals with the age between 41 and 50 years old are found to be the most unlikely group of individual to travel by train and is highly significant at 1% in all of the regressions.

In terms of marital status, the variable married is found to be positive and statistically significant in all of the regressions. It seems that individual who are married will most likely to travel by rail compare to individuals who are not.³⁶

Variables representing different categories of occupation are found to be positive in all regressions except for the variable representing students. As a comparison with other categories of occupation, students are the most unlikely group of individuals that will travel by train.

The coefficients representing different categories of income are negative in all of the regressions, however only individuals with income between RM501 to RM1500 are found to be significantly affecting the demand for intercity rail passenger service.

The variable representing non-vehicle ownership are found to be negative in the regressions but there is no evidence that suggests the variable is significantly

³⁶ During the train passenger survey, it was found that those who are married would usually travel along with their family members and relatives.

affecting the demand for intercity rail passenger services in Peninsular Malaysia at a level of 5%.

There is evidence that the demand for intercity rail passenger services is significantly responsive to the variable representing official business as a purpose of travel and positive in all regressions compare to variables representing other purposes of travel. Implying that individuals with official business will choose rail over bus. Furthermore, their respective companies usually fund the cost of travel.

One important aspect of the study is that the model that provides the most description for the demand for rail passenger services in Peninsular Malaysia is the fifth binary logit model that encompasses all socioeconomic and demographic variables based on the measurement given by the pseudo R squared.

6.2 Policy Implications

The results suggest that a lot of people in Peninsular Malaysia are not keen to use intercity rail passenger services for intercity travel. There are several ways for KTMB to improve its ridership. That includes improving its quality of service in terms of increasing public safety, train speed, reducing delays and providing better amenities and services.

It is wise for KTMB to review its fare structure because in terms of fares calculated for different modes of public transport in Chapter 3, the fare for intercity bus services is relatively cheaper than intercity rail passenger services. Moreover travelling by bus is relatively faster than the rail passenger services. Intercity rail passenger services lose its competitive edge in the end, which resulted those from lower income groups to choose bus over rail.

The terms of concessions given to special group of individuals should also be reviewed in order to attract more ridership. In the analysis it is found that students are the most unlikely group of individuals to travel by train even though they are given a discount as much as 50% (third/economy class). The same also applies to individuals with ages between 41 and 50 years old.³⁷

There is a significant number of individuals who travelled by train because of official business. However, even with the booking and ticket delivery service provided by KTMB, it is not enough to attract this group of individuals. No doubt, their companies usually fund the cost of travel. One positive move by KTMB is to introduce the air-conditioned “Day & Night First Class” coach which is equip with all sorts of amenities including a built in shower room and toilet. More positive initiatives should be taken to attract individuals who travel for other purposes. For example, those travelling for pleasure. And it is critical to do so because one of Malaysia sources of income originates from the tourism sector.

³⁷ Keretapi Tanah Melayu Berhad, Train Time Table & Fares (Kuala Lumpur: Aslita Sdn Bhd, 2001)

6.3 Limitation of Study

The empirical results acquired from the demand for intercity rail passenger services are based on primary data collected from train passenger survey and bus passenger survey. The interpretation of the estimates should be taken generally as it may be subjected to error and bias due to the process of data collection.

One of the setbacks of the binary logit model is that it cannot be used to predict individual probabilities of mode choice, only estimates of the odds ratios can be obtained from the cross-sectional study.³⁸

Moreover, only socioeconomic and demographic variables were tested in the models. These socioeconomic and demographic variables were later converted into dummy variables. So comparison can only be made within categories in that variable but not between variables of other socioeconomic and demographic characteristics.

The binary logit models in this study use socioeconomic and demographic variables. There are other variables that are considered more important in the evaluation of the demand for intercity rail passenger service such as fares, service levels, journey time, frequency of travel and cost of operation of rail services and competing modes. In order to acquire a better prediction on mode choice, these variables should be included into the model.

³⁸ David G. Kleinbaum, Logistic Regression : A Self Learning Text (New York :Springer-Verlag , 1994) 12

The results acquired from the binary logit models in Chapter 5, only compare the choice of mode between intercity rail passenger services and bus services. Additional binary logit models are required to compare intercity rail passenger service with other competing modes such as air services and private motorcars in order to gain the overall picture of the passenger transport industry in Peninsular Malaysia.