CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Summary and conclusion

The micro variables of supply, change in price and types of houses transacted explain more than 70% of the sales prices and, therefore, supports the hedonic multiple regression of housing prices with a significant confidence level of 95%. The types of houses with land leverage, such as double storey terrace house and detached house, are positive in their impact on house prices while the low cost house and flat are viewed as inferior socio-economic units for the poor are negative in their impacts. Hence, the model has identified the micro variables that are significant to the regression of housing price and is suitable to be used for estimation by applying the state in which one is seeking to estimate.

Three of the macro economics variables; GDP, FDI and the lag of one term in HPI, support the multiple regression of HPI while another two, KLCI and CPI, depending on the model, do not support it. Nevertheless, each of the models may be used to predict the housing price index since close to 60% of the macro variables in the regression model can explain the changes in the HPI movement.

With these, prospective house buyers and investors may apply the regression models to determine the housing valuation in a scientific manner as opposed to the rule of Capitalisation of rental yields. This paper has also highlighted many major articles published in journals of real estate and finance or

property and investment promotes the regression method. As such, the objectives of this research to promote further knowledge in the understanding of housing valuation as affected by micro locational and type characteristics and macro environment has been achieved.

5.2 Limitations of the study

This paper investigated the performance of hedonic regression models in housing prices using micro variables of different types of houses as attributes over a time period of seven years with quarterly data and also the macro variables as regression with the HPI . However, the period of study used for this paper has been limited due to the difficulty of obtaining the micro data. The JPPH holds a vast database as it compiles all property transactions occurring in the country. Understandably, they are concerned with their position that these are valuable assets as professional valuers and estate agents pay for using such information to advice their prospective clients. However, they should allow for academic access to such information as these are public information supported by tax payers. Some of the useful information referred to is land tenure and size of the building. If these are available then the research can be refined for more specific relation to the variables of housing prices. Also, the small number of quarterly observations has deterred the regression models for a better performance comparison study. Moreover, the time constraint and limited access to the other software analysis programme, such as GIS (Geographical Information System) have hampered this study to focus on a smaller scope.

5.3 Suggestions for future research

There are still gaps for further in-depth research in the field of building housing price models using hedonic regression in Malaysia. The current research has used only ten micro variables due to existing limitations but it should expand to more in order to capture a more detailed picture. Xu (2008, pp. 166-181), uses twenty-four variables in her study of. "…interaction behaviour between property specifics, location coordinates and buyers' characteristics."

The KLCI and CPI were found not to be significant in this study with the HPI. Further research into this area needs to be conducted to determine a deeper understanding into these macro relationships. On top of that, further research is suggested to employ newer and more forecasting methods to investigate the accuracy of hedonic regression method. By having extending more forecasting methods, the study can produce a better overall picture of which forecasting methods is best used in this context. Lastly, this research can also be extended in terms of the period of the observations to improve the accuracy of the result.

5.4. Implications of the study

The major contribution of this paper is towards the demonstration that hedonic multiple regression can be significantly introduced into the Malaysian property sector for valuation by estimating the micro variables in each state (location) and types (housing attributes). Given the macro economic changes, it

can be used to predict the direction of house prices. As mentioned in the literature review, the hedonic regression can be of multiple uses and although this concept is relative new to be applied in the property market in Malaysia this study has concluded with high confidence level that it is practical and scientific as opposed to the general practice of relying on the agent or the last transaction.