UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

APPLICATION OF LINEAR REGRESSION MODEL ON HOUSE INDEX IN MALAYSIA BASED ON GOLD PRICE AND USD

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS **2**
TABLE OF CONTENTS **3**
LIST OF TABLES **4**
LIST OF FIGURES **5**
ABSTRACT **6**
CHAPTER 1 ..... **7**
INTRODUCTION **7**
1.1 Background of study 7
1.2 Problem Statement 8
1.3 Objectives 9
1.4 Significant and Benefit of Study 9
1.5 Scope and Limitation of Study 9
1.6 Definition of Terms 10
CHAPTER 2 ..... **12**
BACKGROUND THEORY AND LITERATURE REVIEW **12**
2.1 Background Theory 12
2.2 Literature Review/ Related Research 13
CHAPTER 3 ..... **19**
METHODOLOGY AND IMPLEMENTATION **19**
3.1 Equations 21
3.2 Implementations/ Numerical Examples 23
CHAPTER 4 ..... **24**
RESULTS AND DISCUSSION **24**
CHAPTER 5 ..... **29**
CONCLUSIONS AND RECOMMENDATIONS **29**
REFERENCES **31**
APPENDIX A **33**
APPENDIX B **34**
APPENDIX C **37**

LIST OF TABLES

Table 1 Definition of term 10
Table 2 Summary of Related Research 17
Table 3 Wilcoxon Test result 26
Table 4 Model Naming 27
Table 5 Summary of Regression Statistic Model 27
Table 6 Summary Estimated Model 28

ABSTRACT

The Malaysian housing market is influenced by several factors, including economic indicators such as the price of gold and the exchange rate of the Malaysian Ringgit (MYR) against the US Dollar (USD). It involves analyzing the relationship between these two commodities and the house index. The index would consider the fluctuations in gold prices, USD exchange rates and housing prices index over a period, such as a month. However, this study has been carried out on interpreting this relationship. The data would be analyzed using statistical methods to identify any significant correlations between these variables and housing prices is crucial for both homeowners and investors. This study aims to develop a linear regression model significant at *p* less than 0.5. Although the models are significant throughout, the values of R^2 are low. This would provide a brief overview of the study's methodology, results, and conclusions. The research methodology involves collecting historical data on the monthly average price of gold (in USD) and the USD to MYR exchange rate, along with corresponding house index values over a specific period. Data preprocessing techniques are employed to handle missing values and outliers. It would conclude by discussing the implications of the study's findings for the housing market, investors, and policymakers. House price index reflects the price changes of residents' housing over a country's period. In this study, we will be developing its linear regression model to predict the relationship between house price index in Malaysia and gold & USD. The gold price and USD exchange rate act as independent variables, the house index serves as the dependent variable, and the linear regression model is trained using the processed dataset. The model's prediction accuracy, its performance is assessed using a variety of statistical metrics, including mean squared error (MSE) and R-squared (R^2). The study's findings shed light on the connection between Malaysia's housing index, the USD exchange rate, and gold prices. Based on changes in gold prices and the USD exchange rate, the model can be used to predict future house index values. Making informed decisions on real estate investments and market developments can be made easier with the use of this information by real estate investors, policymakers, and homeowners. The outcome of this study can be useful to determine the factors that influence house price index in Malaysia. Future study may include other factors such as raw materials or employment rates in Malaysia.