UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

DYNAMIC BEHAVIOR OF EXCHANGE RATE BY USING CHAOS THEORY MODEL

P18S19

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Report submitted in partial fulfilment of the requirement for the degree of
Bachelor of Science (Hons.) Management Mathematics
Faculty of Computer and Mathematical Sciences

DECEMBER 2019

ACKNOWLEDGEMENTS

IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

Firstly, we are grateful to Allah S.W.T for giving us the strength to complete this project successfully. We would like to express our sincere gratitude to several individuals that support us throughout the process of completing our Final Year Project. First and foremost, we would like to express our sincere thanks to our supervisor, En Muhamad Luqman Bin Sapini for his advices, invaluable suggestions, patience and ideas that helped us a lot in conducting our research and writing this report. We are very thankful to him for spending his precious time in guiding our research. This research would not be successful without his help and we could not imagine having any better supervisor for our research.

We also wish to express our thanks to Madam Aminah for her unwavering support and assistance in our study. We are grateful for her kindness for sharing various ways for us that helped us in enhancing our project report.

Finally, we also wish to express our deepest thanks to our family that never stop giving us encouragement which make us gain our strength to finish this research.

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ABSTRACT

Exchange rate is known as the relative national price level between two economies with the corresponding nominal exchange rate as an auxiliary to convert the account unit to calculate two price level in a single currency. In other words, this represents how many units a consumer can buy from a foreign currency with one unit of their home currency. It is important to know the behavior of the data whether it is linear or non-linear and chaotic or non-chaotic. So that, by using the right forecasting method will increase the accuracy of the result. Thus, in this project, we conduct the Brock-Dechert-Scheinkman (BDS) test to check the linearity of the data. In case the data is non-linear, the presence of chaos in the data will be checked by using 0-1 test and Lyapunov exponent. In order to increase the accuracy of the performance of the method 0-1 test, the range of value random number, c is tested. In this project, the result for all 30 exchange rate shows non-linear and non-chaotic behavior. In consequent, it is recommended for the researcher to forecast the data by using non-linear model.