# TABLE OF CONTENTS

| ABSTRAK | I |
| ABSTRACT | II |
| ACKNOWLEDGMENT | III |
| TABLE OF CONTENTS | IV |
| LIST OF FIGURES | VII |
| LIST OF TABLES | VIII |

## - CHAPTER 1 - INTRODUCTION 

1.0 OVERVIEW 1

1.1 FOREIGN EXCHANGE MARKET 3

1.2 PROBLEM STATEMENT 5

1.3 OBJECTIVES OF THE STUDY 7

1.4 SIGNIFICANCE OF THE STUDY 9

1.5 LIMITATION OF THE STUDY 10

1.6 ORGANIZATION OF THE THESIS 11

1.7 SUMMARY 11

## - CHAPTER 2 - LITERATURE REVIEW 

2.0 OVERVIEW 12

2.1 IMPORTANCE OF HIGH FREQUENCY DATA AND ITS APPLICATION 12

2.2 WAVELET ANALYSIS ON FINANCIAL ASSETS 14

2.3 EFFECT OF EXCHANGE RATE STABILITY AND VOLATILITY OF ASSET PRICING 16

2.4 EFFECT OF EXCHANGE RATE REGIME ON GROWTH PER CAPITA INCOME 19
2.5 Conditions that May Cause Exchange Rate Volatility 22
2.6 Causes on Intraday Volatility 24
2.7 Impact of Information on Exchange Rate Volatility 25
2.8 Intervention in Exchange Market and Its Effectiveness 28
2.9 Spread Theory 33
2.10 Foreign Exchange Trading Pattern 35
2.11 Summary 37

- CHAPTER 3 - RESEARCH METHODOLOGY 38
3.0 Overview 38
3.1 Discrete Wavelet Transform 38
3.2 Maximum Overlap Discrete Wavelet Transform (MODWT) 39
3.3 Haar Filter and Wavelet 42
3.4 Data Collection 46
3.5 Data Cleansing 46
3.6 MODWT Wavelet Toolbox for MATLAB (Software) 47
3.7 Analysis Procedures 47
3.8 Summary 49

- CHAPTER 4 - RESULTS AND FINDINGS 50
4.0 Overview 50
4.1 Correlation Analysis of Spread of Currency Pair Combinations 51
4.2 Correlation Analysis of Volume of Currency Pair Combination 56
4.3 Correlation Analysis of Spread and Volume of Individual Currency Pair 61
4.4 Variance of the Daily Average Correlations 65
LIST OF FIGURES

FIGURE 1: BREAKDOWN OF FOREX TRANSACTIONS 1
FIGURE 2: GROWTH IN FOREX MARKET TURNOVER 3
FIGURE 3: CORRELATION OF SPREAD BETWEEN EURO/USD AND GBP/USD 52
FIGURE 4: CORRELATION OF SPREAD OF GBP/USD AND YEN/USD 53
FIGURE 5: CORRELATION OF SPREAD OF EURO/USD AND YEN/USD 53
FIGURE 6: SPREAD – AVERAGE CORRELATION VALUES OF ALL DATES AGAINST D1 TO D7 54
FIGURE 7: SPREAD – AVERAGE CORRELATION VALUES ACROSS D1 TO D7 AGAINST THE DATES 55
FIGURE 8: CORRELATION OF VOLUME OF EURO/USD AND GBP/USD 56
FIGURE 9: CORRELATION OF VOLUME OF YEN/USD AND GBP/USD 57
FIGURE 10: CORRELATION OF VOLUME OF EURO/USD AND YEN/USD 57
FIGURE 11: VOLUME – AVERAGE CORRELATION VALUES OF ALL DATES AGAINST D1 TO D7 58
FIGURE 12: VOLUME – AVERAGE CORRELATION VALUES ACROSS D1 TO D7 AGAINST THE DATES 59
FIGURE 13: EURO/USD - CORRELATION OF SPREAD AND VOLUME 61
FIGURE 14: GBP/USD - CORRELATION OF SPREAD AND VOLUME 62
FIGURE 15: YEN/USD - CORRELATION OF SPREAD AND VOLUME 62
FIGURE 16: SPREAD AND VOLUME – AVERAGE CORRELATION VALUES OF ALL DATES AGAINST D1 TO D7 63
FIGURE 17: SPREAD AND VOLUME – AVERAGE CORRELATION VALUES ACROSS D1 TO D7 AGAINST THE DATES 64
LIST OF TABLES

TABLE 1: VARIANCE OF THE DAILY AVERAGE SPREAD CORRELATION VALUES
   (CURRENCY PAIRS COMBO) 65

TABLE 2: VARIANCE OF THE DAILY AVERAGE VOLUME CORRELATION VALUES
   (CURRENCY PAIRS COMBO) 65

TABLE 3: VARIANCE OF THE DAILY AVERAGE SPREAD AND VOLUME CORRELATION VALUES (SINGLE PAIR) 66