



DEPENDENCY RELATIONS AMONG STOCK MARKET
INDICES USING TRANSFER ENTROPY : EVIDENCE
FROM BURSA MALAYSIA

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TABLE OF CONTENTS

LIST	PAGE
TITLE PAGE	i
DECLARATION OF ORIGINAL WORK	ii
LETTER OF TRANSMITTAL	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENT	v
LIST OF FIGURES	viii
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x
ABSTRACT	xi
CHAPTER 1	INTRODUCTION
1.1 Introduction	1-2
1.2 Background of Study	2
1.3 Problem Statement	2-3
1.4 Research Objective	4
1.5 Significant of Study	4-5
1.6 Scope of Study	5
1.7 Limitation of Study	5-6
1.8 Summary of Study	6
CHAPTER 2	LITERATURE REVIEW
2.1 Introduction	7
2.2 Literature Review	7-9
2.3 Summary of Chapter	9-10

CHAPTER 3	DATA AND METHODOLOGY	
	3.1 Introduction	11
	3.2 Data Collection	11-12
	3.3 Diagnostic Checks	12-13
	3.4 Correlation	13
	3.5 Transfer Entropy	14-18
	3.6 Summary of Chapter	18
CHAPTER 4	RESULTS AND ANALYSIS	
	4.1 Introduction	19
	4.2 Correlation (Pearson Correlation)	19-20
	4.3 Correlation (Evaluation In Time)	20-21
	4.4 Enlarge Correlation Matrix	22
CHAPTER 5	CONCLUSION AND RECOMMENDATION	
	5.1 Introduction	23
	5.2 Conclusion	23
	5.3 Recommendation	24
REFERENCE		

ABSTRACT

Quite a number of literature exists on networks in finance and most of them are usually related to interbank market to find the correlation between borrowing and lending only. However, there were less studies of dependency between stock market indices. The current study seeks to explain the methods to develop networks of stock market indices using information and correlation based measures. Plus, the aim of the research is to find the best method to determine the correlation between stock index return and different types of industries in Bursa Malaysia. Secondary data were collected from 10 different stock indices in Bursa Malaysia for ten years (2006-2015). Then, the absolute values of stock market indices were used as well as their single-day lagged values to show the correlation and the flow of information from one stock index to another. The formulism of partial correlations was carried out to build the dependency network of data and calculate the partial Transfer Entropy to quantify the indirect influence the indices have on one another. Findings from the current work suggests that Transfer Entropy is an effective way to quantify the flow of information between indices and that a high degree of information flow between indices lagged by one day coincides with the indices on the current day.