

TABLE OF CONTENTS

COVER	i
THESIS APPROVAL	ii
APPROVAL OF EXAM PASSAGE.....	iii
STATEMENT OF BACHELOR THESIS ORIGINALITY	iv
MOTTO AND DEDICATION.....	v
ABSTRACT	vi
<i>ABSTRAK</i>	vii
PREFACE	viii
LIST OF TABLES.....	xiv
LIST OF PICTURES	xvi
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Formulation of Problem	17
1.3 Objectives and Benefits	18
1.3.1 Objectives.....	18
1.3.2 Benefits	18
1.4 Structure of writing.....	18
CHAPTER II LITERATURE REVIEW.....	20
2.1 Theoretical Foundations and Previous Research.....	20
2.1.1 Blockchain.....	20
2.1.2 Cryptocurrency: Bitcoin.....	27
2.1.3 Bitcoin Mining	32
2.1.4 Hash rate	40
2.1.5 Bitcoin Transaction.....	41
2.1.6 Global Primary Energy Consumption.....	41
2.1.7 Linking Bitcoin Mining and Energy Consumption	41
2.1.8 Cost of Production Theory	44
2.1.9 Energy Demand Theory	46

2.1.10	Previous Research.....	49
2.2	Framework	51
2.3	Hypothesis	52
CHAPTER III DATA AND METHODOLOGY		53
3.1	Research Variable and Variable Operational Definition	53
3.1.1	Research Variable.....	53
3.1.2	Variable Operational Definition	53
3.2	Methodology Framework.....	55
3.3	Types and Sources of Data.....	55
3.4	Methods of Collecting Data	56
3.5	Methods of Analysis	57
3.5.1	Stationarity test.....	57
3.5.2	Bound Test	58
3.5.3	Autoregressive Distributed Lag.....	59
3.5.4	Stability Check	61
3.5.5	Classical Assumption.....	61
3.5.6	Statistical Test	63
CHAPTER IV RESULT AND DISCUSSION		65
4.1	Description of Research Object.....	65
4.1.1	Hash rate	66
4.1.2	Bitcoin Total Transaction.....	68
4.1.3	Global Primary Energy Consumption.....	69
4.2	Data Analysis	70
4.2.1	Descriptive Statistics.....	70
4.2.2	Stationarity Test.....	72
4.2.3	Cointegration Result	73
4.2.4	Optimum Lag	74
4.2.5	ARDL Result.....	76
4.2.6	Stability Check	80

4.2.7	Classical Assumption Test.....	81
4.2.8	Statistics Test	85
4.3	Data Interpretation	88
4.3.1	Relationship between hash rate and global primary energy consumption	88
4.3.2	Relationship between total transaction and global primary energy consumption	89
	CHAPTER V CONCLUSION	92
5.1	Conclusion.....	92
5.2	Limitation.....	93
5.3	Suggestion.....	93
5.3.1	Policy Implication.....	93
5.3.2	Suggestion	94
	BIBLIOGRAPHY.....	95
	APPENDICES	105