

**THE ANALYSIS OF OPTIMAL PORTFOLIO FORMING WITH SINGLE
INDEX MODEL**

(Study of Companies Listed on Jakarta Islamic Index 2014-2020)



THESIS

**Submitted as a Partial Fulfillment of the Requirement for Obtaining a
Bachelor Degree of Management at the Faculty of Economics and Business**

By:

IMAROTUL ULYA

B100183572

**DEPARTMENT OF MANAGEMENT DUAL DEGREE PROGRAM
ECONOMICS AND BUSINESS FACULTY UNIVERSITAS
MUHAMMADIYAH SURAKARTA**

2023

APPROVAL PAGE

The undersigned below have read the research proposal with the title:

THE ANALYSIS OF OPTIMAL PORTFOLIO FORMING WITH SINGLE INDEX MODEL

(Study of Companies Listed on Jakarta Islamic Index 2014-2020)

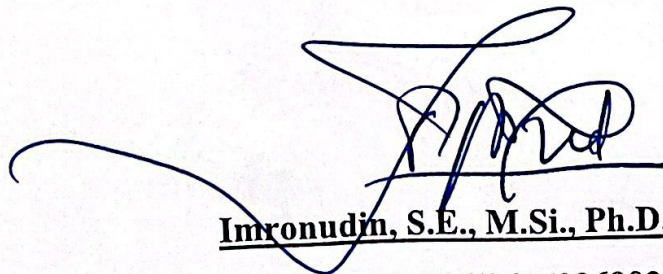
Written by:

IMAROTUL ULYA

B100183572

Research has been accepted and approved

Thesis Supervisor,

A handwritten signature in blue ink, appearing to read 'Imronudin', is written over a horizontal line. The signature is stylized with loops and flourishes.

Imronudin, S.E., M.Si., Ph.D.

NIK/NIDN: 826/0617036902

APPROVAL PAGE
**THE ANALYSIS OF OPTIMAL PORTFOLIO FORMING WITH SINGLE
INDEX MODEL**

(Study of Companies Listed on Jakarta Islamic Index 2014-2020)

Written and composed by:

IMAROTUL ULYA

B100183572

It has been maintained in front of the board of examiners

Faculty of economics and business

Universitas Muhammadiyah Surakarta

On Thursday, January 19 2023

And declared to have met the requirements

The Board of Examiners:

1. Imronudin, S.E., M.Si., Ph.D.
(Chairman of the Board of Examiners)
2. Kussudyarsana, S.E., M.Si., Ph.D
(Member I Board of Examiners)
3. Soepatini, S.E., M.Si., Ph.D.
(Member II Board of Examiners)

(.....)

(.....)

(.....)

Dean,



Prof. Dr. Anton Agus Setyawan, S.E., M.Si.

NIK/NIDN: 829/0616087401

DECLARATION OF AUTHENTICITY

I, the undersigned below:

Name : **IMAROTUL ULYA**

NIM : **B100183572**

Study Program : **MANAGEMENT DOUBLE DEGREE**

Thesis Title : **THE ANALYSIS OF OPTIMAL PORTFOLIO OF
OPTIMAL PORTFOLIO FORMING WITH SINGLE
INDEX MODEL (Study of Companies Listed on Jakarta
Islamic Index 2014-2020)**

Stating correctly that the thesis I made and submitted is my own work, except the quotations and summaries that all of which I have already explained the sources. The thesis has been prepared according to the regulations of Universitas Muhammadiyah Surakarta and has not been submitted in whole or in part for an award in this or any other institutions. If in the future this statement is proven to be violated, I am willing to accept any sanction complying with the determined regulation or its consequence.

Surakarta, January 19 2023



Imarotul Ulya

MOTTO

“But Allah is your protector, and He is the best of helpers.”

(QS Ali ‘Imran 150)

“My Lord! I am truly in need of whatever good that You bestow on me!”

(Surah Qasas, Verse 24)

“and that man shall have nothing but what he has striven for,”

(Surah Najm, Verse 39)

“You got a dream... You gotta protect it. People can't do somethin' themselves, they
wanna tell you you can't do it. If you want somethin', go get it”

(Christopher Gardner)

DEDICATION

Bismillahirrahmanirrahiim

I present this paper with full of love for:

- My beloved parents and family members.
- My university, Universitas Muhammadiyah Surakarta.

ABSTRACT

The purpose of research is to determine the optimal portfolio composition using the Single Index Model on JII the 2014-2020. The research sample was determined using the purposive sampling method with criteria companies consistently listed on JII during June 2014-Novemeber 2020, companies do not conduct a stock split and having completed historical data. Based on the criteria, a sample of nine stocks was obtained. The results showed that there were three stocks included in the optimal portfolio according to SIM, namely INCO, ADRO and WIKA because these three stocks had a higher ERB value than C^* . The proportion of funds invested in each share, namely: INCO (63.91%), AKRA (32.65%) and WIKA (3.44%). The return from the optimal portfolio that has been formed is 1.10% per month, while the risk that must be borne by investors from the optimal portfolio is 2.56%. From the results of the different tests, it is known that there are differences in trading volume between optimal and non-optimal stocks which indicate that there is investor irrationality in stock selection.

Keywords: single index model, optimal portfolio, JII, expected return, investor irrationality

ABSTRACT

Tujuan penelitian adalah untuk mengetahui komposisi portofolio optimal dengan menggunakan Model Indeks Tunggal pada JII tahun 2014-2020. Sampel penelitian ditentukan dengan menggunakan metode purposive sampling dengan kriteria perusahaan yang konsisten terdaftar di JII selama bulan Juni 2014-November 2020, perusahaan yang tidak melakukan stock split dan memiliki data historis yang lengkap. Berdasarkan kriteria tersebut, diperoleh sampel sebanyak sembilan saham. Hasil penelitian menunjukkan bahwa terdapat tiga saham yang masuk dalam portofolio optimal menurut SIM yaitu INCO, ADRO dan WIKA karena ketiga saham tersebut memiliki nilai ERB yang lebih tinggi dari C^* . Proporsi dana yang diinvestasikan pada masing-masing saham yaitu: INCO (63,91%), AKRA (32,65%) dan WIKA (3,44%). Return dari portofolio optimal yang terbentuk adalah 1,10% per bulan, sedangkan risiko yang harus ditanggung investor dari portofolio optimal adalah 2,56%. Dari hasil uji beda diketahui bahwa terdapat perbedaan volume perdagangan antara saham optimal dan non optimal yang mengindikasikan adanya irasionalitas investor dalam pemilihan saham.

Kata kunci: Single index model, portofolio optimal, JII, return yang diharapkan, irasionalitas investor

ACKNOWLEDGEMENTS

Bismillahirrohmaanirrohiim

Assalaamu'alaikum Warahmatullahi Wabarakaatuh

Alhamdulillah, first of all the author would like to express high thankfulness to Allah SWT, the Almighty for the blessing, health, and inspiration in the completion of thesis with the title "THE ANALYSIS OF OPTIMAL PORTFOLIO OF OPTIMAL PORTFOLIO FORMING WITH SINGLE INDEX MODEL (Study of Companies Listed on Jakarta Islamic Index 2014-2020)". This thesis was composed as one of the requirements to achieve a Bachelor of Economics degree at the Faculty of Economics and Business, Study Program Management double degree, Universitas Muhammadiyah Surakarta. During the composition of this thesis has received a lot of help from various parties, for that the author does not forget to say thank you to:

1. Dr. H. Sofyan Anif, M.Si as a Rector of Universitas Muhammadiyah Surakarta and all rectorat leaders of Universitas Muhammadiyah Surakarta.
2. Prof. Dr. Anton Agus Setyawan, S.E., M.Si. as a Dean of the Faculty of Economics and Business, Universitas Muhammadiyah Surakarta.
3. Mr. Imronudin, SE, M.Si, Ph.D as a vice dean 3 Program Faculty of Economics and Business, Universitas Muhammadiyah Surakarta and as a supervisor who has guided the author in completing this thesis.
4. All lecturers and employees of the Faculty of Economics and Business, Universitas Muhammadiyah Surakarta, especially the study program of Management double degree, who are willing to guide and transmit their knowledge to students and have helped in the academic and administrative fields of students.
5. Father, Mother, and Sisters who have given support, prayer, and guided and devoted their love to me.
6. All my friends who have given support to me to go ahead and never give up.
7. All parties that the author cannot mention one by one who have meaning in completing this thesis. Without meaning to ignore, only the limitations of space and the writer's mistakes.

The author realizes that the writing of this thesis is still lacking in both writing and presentation. For that all constructive suggestions and criticisms may be useful for further research. Hopefully this thesis will be useful for all those who need it and become an early success of the author in the future. Aamiin. Wassalaamu'alaikum Warahmatullahi Wabarakaatuh

Table of Content

TITLE PAGE	i
APPROVAL PAGE	ii
DECLARATION OF AUTHENTICITY	iv
MOTTO	v
DEDICATION	vi
ABSTRACT.....	vii
ACKNOWLEDGEMENTS	ix
Table of Content	x
LIST OF FIGURE.....	xiii
INTRODUCTION.....	1
A. Background	1
B. Research Problem	6
C. Research Objectives.....	6
D. Benefits of Research	6
E. Thesis Writing Systematics	7
LITERATURE REVIEW	9
A. Theoretical Basic	9
B. Previous Research	16
C. Hypothesis Development.....	19
D. Research Framework	20
RESEARCH METHODOLOGY	22
A. Research Design	22
B. Research Variables.....	22
C. Types and Data Sources	27
D. Data Collecting Methods.....	27
E. Population and Sample Determination	28
F. Data Analysis Method	32
RESEARCH RESULTS AND DISCUSSION.....	33

A. Research Object Characteristic	33
B. Research Results	34
CONCLUSION.....	44
A. Conclusion.....	44
B. Research Limitations.....	44
C. Suggestions	45
REFERENCES	46
APPENDIX.....	48

LIST OF TABLES

Table 1. Companies consistently listed on JII	29
Table 2. Companies that do not conduct a stock split on JII.....	30
Table 3. Companies that have complete historical data on stock price.....	31
Table 4. Stock List of Sample Members	31
Table 4.1. Selection of Research Samples.....	33
Table 4.2. $E(R_i)$, STDev and variance of each individual stock	36
Table 4.3. $E(R_i)$, STDev and variance of JII and BI rate	36
Table 4.4 Alpha, Beta and Variance error/unsystematic risk	37
Table 4.5 A_i , B_i , C_i and ERB	38
Table 4.6 The value of C^* and optimal portfolio candidates	39
Table 4.7 Proportion of Funds for Each Stock.....	40
Table 4.8. Expected return and variance of portfolio	41
Table 4.9 One-Sample Kolmogorov-Smirnov Test	42
Table 4.10 Mann-Whitney Test	43

LIST OF FIGURE

Figure 1. Development of Sharia Stocks	3
Figure 2. Research Framework	20
Figure IV.1. Percentage proportion of funds.....	40