

# PROSIDING

## 8<sup>th</sup> MANAGEMENT DYNAMIC CONFERENCE

# 2023

# 16-17 MARET

| Makassar  
| Indonesia



# TAS EKONOMI DAN



**Prosiding**  
**MADIC 8, 2023**

**Makassar, 16 -17 Maret 2023**

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## About Madic 8 2023

Management Dynamics Conference (MADIC) ke-8 adalah seminar nasional yang diselenggarakan oleh Fakultas Ekonomi dan Bisnis Universitas Hasanuddin bekerja sama dengan Forum Pengelola Jurnal Manajemen (FPJM). Tema seminar “*Penguatan Manajemen UMKM sebagai Motor Penggerak Pemulihan Ekonomi Nasional*”. Konferensi ini bertujuan untuk menghimpun berbagai pandangan dan pengalaman empiris dari para praktisi dan akademisi ekonomi mengenai penguatan UMKM sebagai pilar ekonomi utama serta memberikan solusi untuk tujuan ketahanan keberlanjutan (SDGs) Indonesia. Para akademisi, praktisi, peneliti telah berkontribusi dalam pengembangan penelitian manajemen dengan berpartisipasi dalam MADIC 8.

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## **Sambutan Dekan Fakultas Ekonomi dan Bisnis Universitas Hasanuddin**

Selamat datang di Management Dynamics Conference (MADIC) ke-8 diadakan pada tanggal 16 – 17 maret 20223 di Makassar, Indonesia. Konferensi ini diselenggarakan untuk mempromosikan diskusi antara berbagai pemangku kepentingan tentang, manajemen dan bidang ekonomi. Kali ini, Fakultas Ekonomi dan Bisnis, Universitas Hasanuddin menjadi tuan rumah bekerja sama dengan Forum Pengelola Jurnal Manajemen (FPJM). Melanjutkan tradisi menyatukan penelitian, pembuat kebijakan, akademisi dan berbagai pemangku kepentingan untuk mempresentasikan dan mendiskusikan isu terkini terkait perkembangan ekonomi nasional. Untuk memperkuat pembahasan tentang manajemen, ekonomi dan bidang akuntansi, kami sepakat mengangkat topik konferensi tahun ini berjudul “*Penguatan Manajemen UMKM sebagai Motor Penggerak Pemulihan Ekonomi Nasional*”. Untuk memberikan informasi terbaru mengenai topik kepada pembaca dan peserta, kami ingin menyampaikan apresiasi dan terima kasih kepada 3 narasumber dihadirkan dalam acara ini yaitu M. Fankar Umran CEO BRI Insurane, Causa Iman Karana Kepala Perwakilan Bank Indonesia Provinsi Sulawesi Selatan, dan Darwisman Kepala OJK Regional Sulampapua atas wawasan dan dukungan mereka selama konferensi. Kami berharap acara ini sangat mendorong diskusi tentang peningkatan kualitas UMKM di Indonesia. Selain itu kami ingin menyampaikan terima kasih dan dukungan kami kepada

Terakhir, kami ingin mengucapkan terima kasih sekali lagi atas kontribusi dan kerja sama yang sangat baik di antara kami para peserta konferensi. Selain itu, kami mengucapkan terima kasih atas kerjasama semua pihak panitia dalam menyelenggarakan konferensi. Kami berharap dapat bekerja sama dengan semua pemangku kepentingan yang terlibat dalam acara ini. Kami berharap proses ini akan menyediakan berbagai manuskrip unggulan yang dapat memberikan kontribusi besar dalam bidang ekonomi, manajemen dan akuntansi.

**Prof.Dr.Abd. Rahman Kadir, M.Si., CIPM**  
Dekan Fakultas Ekonomi dan Bisnis  
Universitas Hasanudin

## **Sambutan Ketua panitia Management Dynamic Conference ke - 8**

Saya sangat senang bahwa acara Management Dynamic Conference ke-8 dengan tema "Penguatan Manajemen UMKM sebagai Motor Penggerak Pemulihan Ekonomi Nasional" telah terlaksana dengan sukses. Semoga acara ini memberikan banyak manfaat dan inspirasi bagi semua peserta yang hadir.

Saya ingin mengucapkan selamat dan mengapresiasi seluruh panitia yang telah bekerja keras dan dedikasi tinggi dalam menyelenggarakan acara ini. Tanpa upaya mereka, acara ini tidak akan mungkin terwujud. Terima kasih atas kerja keras dan komitmen yang telah diberikan.

Selain itu, saya juga ingin mengucapkan terima kasih kepada narasumber yang telah berbagi pengetahuan dan pengalaman mereka dalam mendukung penguatan manajemen UMKM. Kontribusi mereka sangat berharga dan saya berharap peserta dapat mengambil manfaat yang besar dari presentasi dan diskusi yang telah dilakukan.

Saya berharap bahwa acara ini menjadi awal dari langkah-langkah konkret dalam memperkuat sektor UMKM sebagai motor penggerak pemulihan ekonomi nasional. Mari kita terus bekerja sama, berinovasi, dan berkolaborasi dalam mendukung pertumbuhan UMKM dan memajukan ekonomi kita.

Terima kasih kepada semua yang telah berpartisipasi dalam acara ini, termasuk peserta, narasumber, dan semua pihak yang telah memberikan dukungan. Semoga kita dapat melanjutkan semangat dan energi positif ini untuk memperkuat sektor UMKM dan membangun ekonomi yang lebih kuat.

Sekali lagi, selamat atas kesuksesan acara Management Dynamic Conference ke-8. Semoga langkah-langkah yang dihasilkan dari acara ini dapat memberikan dampak yang positif bagi penguatan manajemen UMKM dan pemulihan ekonomi nasional.

**Insany Fitri Nurqamar, S.E.,M.M.**

Ketua panitia Management Dynamic Conference ke - 8  
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## **ANALYSIS OPTIMAL PORTFOLIO FORMATION USING SINGLE INDEX MODEL IN BANKING SECTOR (LQ-45) 2020- 2021**

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### **Abstract**

*This study aims to determine the optimal portfolio formation using a single index model. With the aim to know and be a material consideration for investors when making investment decisions. This type of research is quantitative. The population using in this study is the LQ-45 index stock. The sampling technique using purposive sampling, banks registered in LQ-45 with a total sample of 5 shares selected. The type of data used is secondary data with the method of analysis using a single index model.*

*From the results of calculations using the single index model approach, it shows that the five banking stocks listed on LQ-45 for the period June 2020 - June 2021 can form an optimal portfolio by owning each share portion, namely BMRI 35%, BBRI 30%, BBTN 18 %, BBKA 12% and BBNI 5%. So that the stocks that make up the optimal portfolio have a return of 0.0322 or 3% and a portfolio risk of 0.0242 or 2%.*

*Keywords : Optimal Portofolio, Single Index Model. LQ-45 Index*

### **Abstrak**

*Penelitian ini bertujuan untuk menentukan pembentukan portofolio optimal menggunakan model indeks tunggal. Tujuannya adalah untuk memberikan informasi dan pertimbangan bagi para investor dalam pengambilan keputusan investasi. Jenis penelitian ini adalah kuantitatif. Populasi yang digunakan dalam penelitian ini adalah saham indeks LQ-45. Teknik pengambilan sampel menggunakan purposive sampling, dengan memilih 5 saham perbankan terdaftar di LQ-45 sebagai sampel. Jenis data yang digunakan adalah data sekunder dengan metode analisis menggunakan model indeks tunggal.*

*Dari hasil perhitungan menggunakan pendekatan model indeks tunggal, diperoleh bahwa lima saham perbankan yang terdaftar di LQ-45 periode Juni 2020 - Juni 2021 dapat membentuk portofolio optimal dengan kepemilikan masing-masing saham, yaitu BMRI 35%, BBRI 30%, BBTN 18%, BBKA 12%, dan BBNI 5%. Dengan demikian, saham-saham yang membentuk portofolio optimal memiliki tingkat pengembalian sebesar 0,0322 atau 3% dan risiko portofolio sebesar 0,0242 atau 2%.*

*Kata kunci : Optimal Portofolio, Single Index Model. LQ-45 Index*

## 1. Introduction

Currently there are several ways to manage funds, one of which is investing. Investment is an activity that cannot be separated from the business world. An investment can be described as the management of funds with the intention of making future profits. According to Tandelilin (2010), an investment is a commitment to a number of funds or other resources that are utilized at the present time with the intention of obtaining a number of benefits in the future.

Investment decisions for an investor in the future contain uncertainty, because investment does not always provide benefits. However, investing can also allow for large losses or risks. The capital market offers various investment options with different levels of risk and return.

Investors must take risks in order to make money because the value of an asset can fluctuate at any time due to changes in uncertain market conditions. Furthermore, there is a linear and unidirectional relationship between investment risk and expected return. The level of risk that will be taken is proportional to the expected return. so that investors are advised to create an investment portfolio to lower the risk associated with stock investments.

According to Zubir (2011) a stock portfolio is an investment consisting of various shares of different companies with the hope that if the price of one of the shares decreases, while the other increases, the investment will not suffer a loss. Optimal portfolio can determine investment success where investment can generate maximum returns or returns. Forming an optimal portfolio takes into account the ratio between the level of return to be received and the risk factors faced.

Using a single index model is one method for creating an optimal portfolio. A systematic risk measurement technique (beta) called the Single Index Model uses market returns as a variable to represent the factors that influence stock prices. The Single Index Model is based on the observation that the price of a security fluctuates in the direction of the market price index (Jogiyanto, 2014).

The single index model is also used to calculate the expected return and portfolio risk. The optimal portfolio analysis technique using the Single Index Model is an analysis of securities by comparing the Excess Return to Beta (ERB) with the Cut of Point ( $C^*$ ) of each stock. If the ERB calculation results  $\geq C^*$ , then the stock can be included in the optimal portfolio. Meanwhile, if the ERB  $< C^*$  then the stock is not classified as a stock that can be formed optimal portfolio.

## 2. Methodology

This research was conducted with the aim of forming an optimal portfolio based on the performance of banking stocks listed on the Indonesia Stock Exchange using a single index model. The population in this study are all banking stocks included in the LQ-45 index on the Indonesia Stock Exchange (IDX) for the period June 2020 - June 2021. Sampling was carried out using a purposive sampling technique in order to obtain 5 banks. As follows:

**Table 1.1**  
**LQ-45 Banking List**

No	Company Code	Company Name
1.	BBNI	Bank Negara Indonesia (Persero) Tbk.
2.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.
3.	BBTN	Bank Tabungan Negara (Persero) Tbk.
4.	BMRI	Bank Mandiri (Persero) Tbk.
5.	BBCA	Bank Central Asia Tbk.

The data used in this study is secondary data obtained from observing listed stocks and included as a calculating factor for the LQ-45 index, such as monthly closing price data, LQ-45 index data and Bank Indonesia reports on developments Monthly deposit interest during the observation period is used as a measure of risk free and data on the Jakarta Composite Index (IHSG) as a measure of market returns.

Quantitative data are the types of data used. Quantitative research is research that is done by collecting data in the form of numbers or by converting data in the form of words or sentences into numbers. The numbers that make up the data are then processed and looked at to find scientific information behind them (Martono, 2014). In this research, the data used is published annual report data.

Data analysis techniques related to this research use achievement to maximize returns and to minimize investment risk through the portfolio concept by using a single index model concept portfolio analysis tool.

1. Calculating returns from individual stocks (issuers)

$$Rt(i) = \frac{P_{t+1}(i) - P_t(i)}{P_t(i)}$$

2. Expected Return for each individual stock is calculated using the Excel program using the Average formula, which is the average percentage of realized return on stock A divided by the amount of realized return on stock A.

$$E(R_i) = \frac{\sum R_t(i)}{n}$$

3. Standard Deviation (SD) is used to measure the risk of realized returns. Can use std. Deviation in the Excel program.

$$SD = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n - 1}}$$

4. Stock variance aims to measure the risk of expected stock returns. Can use the Var formula in the Excel program.

$$\sigma^2_i = \frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n - 1}$$



5. The Excess Return to Beta (ERB) and cutoff point (Ci) are calculated using beta. can make use of the Excel Slope formula.

$$\beta_i = \left(\frac{\sigma_i}{\sigma_m}\right)r_{im}$$

6. Alpha is the intercept of stock i's realized return and market return (IHSG), and its purpose is to determine the variance error ( $\sigma^2_{ei}$ ).

$$\alpha_i = R_i - \beta_i * R_m$$

7. A singular or unsystematic risk exists in stock is variance of the residual error.

$$\sigma^2_{ei}(i) = \sigma^2_i - (\sigma^2_m * (\sigma_i)^2)$$

8. The relative excess return on a single unit of risk that cannot be diversified is measured by the Excess Return to Beta (ERB).

$$ERB_i = \frac{E(R_i) - R_f}{\beta_i}$$

9. In order to calculate Ci, the values of Ai and Bi must first be calculated in order to obtain Aj and Bj, respectively..

$$A_i = \frac{[E(R_i) - R_f] \beta_i}{\sigma_{ei}^2}$$

$$B_i = \frac{\beta_i^2}{\sigma_{ei}^2}$$

10. The Ci value is the quotient of the market variance to excess returns greater than the RFR to stock variance errors with market variance on the sensitivity of individual stocks to stock variance errors.

$$\beta_i = \left(\frac{\sigma_i}{\sigma_m}\right)r_i$$

11. The Cut-Off Point (C\*) is the largest Ci value from a series of Ci values.

$$\text{Value ERB} > C_i \text{ last}$$

12. The IF formula is used in the Excel program to determine the proportion of funds (Xi), or each stock in the optimal portfolio.

$$X_i = \frac{\beta_i^2}{\sigma_{ei}^2} (ERB - C^*)$$

13. A visual representation of the optimal portfolio's fund-to-stock ratio (Wi).

$$W_i = \frac{X_i}{\sum X_i}$$

### 3. Result

We can see that the optimal portfolio formation using a single index model of the five sample companies yields the following data using the above method:

Emiten	$\alpha$	B	$\sigma^2_{ei}$	ERB	Ci	C*	Decision
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<b>BBTN</b>	0.035	2.5675	0.053	0.0258	0.0076	0.0076	Optimal
<b>BMRI</b>	0.01	1.1299	0.008	0.0198	0.007	0.0076	Optimal
<b>BBRI</b>	0.008	1.4119	0.009	0.0168	0.0072	0.0076	Optimal
<b>BBNI</b>	- 0.001	1.666	0.023	0.0108	0.0031	0.0076	Optimal
<b>BBCA</b>	0.000	1.0532	0.005	0.0103	0.0045	0.0076	Optimal

The table above ranks the highest to lowest ERB values based on the findings of the analysis that was carried out and obtained. Assets with an ERB value that is either greater than or equal to the ERB value at the cut-off point make up the ideal portfolio. We can conclude that BBTN, BMRI, BBRI, BBNI, and BBCA are the five companies included in the optimal portfolio period June 2020 and June 2021 due to their higher ERB values than the cut-off value.

<b>Emite</b>	<b>Zi</b>	<b>Wi</b>	<b>Alfa P</b>	<b>Beta P</b>	<b><math>\sigma^2_{eip}</math></b>	<b>Percent</b>
BBTN	0.8758	0.1795	0.0063	0.4608	0.0096	18%
BMRI	1.7312	0.3548	0.0037	0.4009	0.0028	35%
BBRI	1.4457	0.2962	0.0023	0.4183	0.0027	30%
BBNI	0.2347	0.0481	0.000	0.0801	0.0011	5%
BBCA	0.5926	0.1214	0.000	0.1279	0.0006	12%
	<b>4.8799</b>	<b>1</b>	<b>0.0122</b>	<b>1.4879</b>	<b>0.0168</b>	<b>100%</b>

The table above shows that in the period June 2020 – June 2021 of the five banking companies listed on LQ-45 which have the highest proportion of shares, namely BMRI of 35%, BBRI 30%, BBTN 18%, BBCA 12% and those with a proportion of shares the lowest is BBNI of 5%.

<b>E (Rm)</b>	<b>E (Rp)</b>	<b>Varians Market</b>	<b>Varians Portofolio</b>
0.0134	0.0322	0.0034	0.0242

The single index model's results for the months of June 2020 and June 2021 are shown in the table above. We can draw the conclusion that the single index model produces a better portfolio return of 0.0322 than the market return of 0.0134. And it produces a bigger portfolio risk of 0.0242 when compared to market risk of 0.0034.

#### **4. Conclusion**

The portfolio is made up of a variety of assets and investment instruments that are set up to help you reach your investment goals. Investors seek a high rate of return. However, a high risk must accompany a high return. Investors must therefore diversify their portfolios in order to reduce risk.

Based on the results of the calculations and discussion that have been carried out, it can be concluded that the portfolio in the period June 2020 – June 2021 is known that the five banking companies listed on LQ-45 form an optimal portfolio with a proportion of their respective shares, which have a proportion the highest shares are BMRI with 35%, BBRI with 30%, BBTN with 18%, BBCA with 12% and those with the lowest proportion of shares are BBNI with 5%. So that the stocks that make up the optimal portfolio have a return of 0.0322 or 3% and a portfolio risk of 0.0242 or 2%. Therefore the optimal

portfolio that has been analyzed has a greater rate of return than the risk.

## 5. Recommendation

For further research, it is recommended to conduct a similar study with a longer time period to obtain a more comprehensive understanding of optimal portfolio formation using a single index model. Additionally, involving more independent variables or exploring different industry sectors can broaden the understanding of optimal portfolio formation in the stock market.

As for managers, the recommendation is to consider implementing the optimal portfolio formation based on the findings of this study. By allocating the mentioned proportions of stocks in the optimal portfolio (e.g., BMRI 35%, BBRI 30%, BBTN 18%, BBKA 12%, and BBNI 5%), managers can maximize the return and control the portfolio risk. However, it is important to consider other factors such as changing market conditions and investment policies that align with the company's objectives.

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**ID25679**

## **Optimal Portfolio Formation Analysis Using Single Index Model based on Cigarette company image listed on the IDX**

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### **Abstract**

*The purpose of this study was to find out whether the company's image affects the stock price forming the optimal portfolio. The sample of this research is the sample in the research. there*