OPTIMAL PORTFOLIO ANALYSIS ON BANKING STOCKS IN THE INDONESIAN STOCK EXCHANGE USING THE MEAN VARIANCE EFFICIENT PORTFOLIO (MVEP) METHOD AND THE DATA ENVELOPMENT ANALYSIS (DEA) APPROACH

UNDERGRADUATE THESIS

Submitted as one of the requirements to obtain
Sarjana Aktuaria

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ACTUARIAL STUDY PROGRAM

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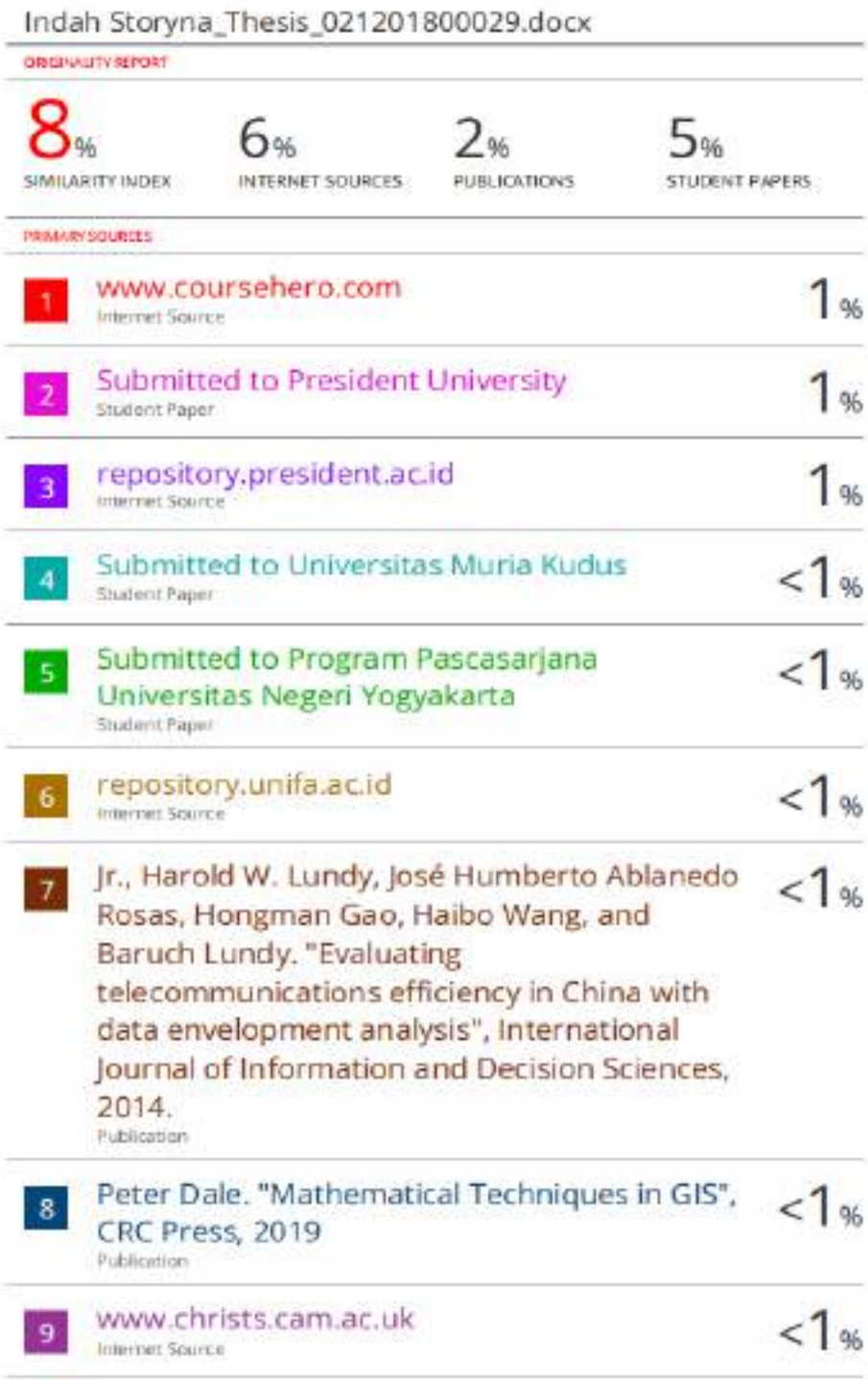

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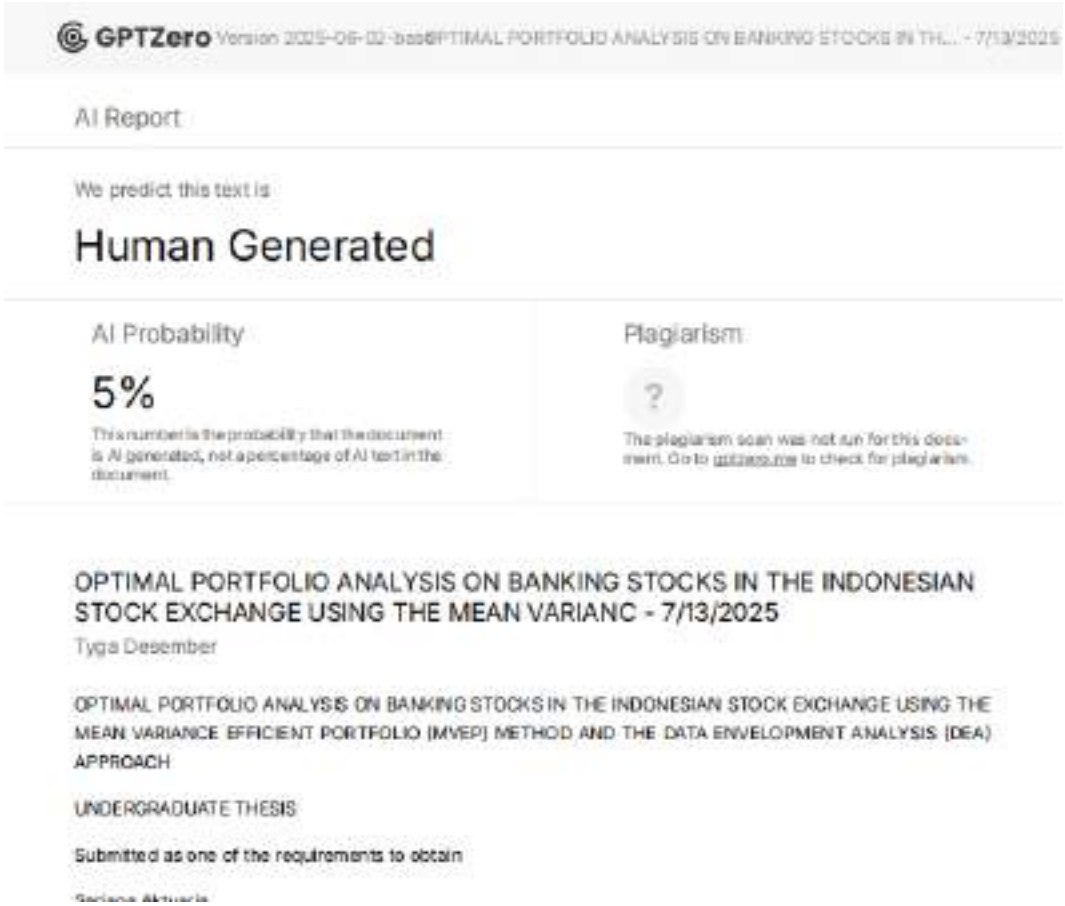
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ABSTRACT

Stocks remain a highly sought-after investment, offering high-profit potential alongside significant risks. An optimal portfolio seeks to maximize returns while minimizing losses, achievable through methods like the Mean-Variance Efficient Portfolio (MVEP) and Data Envelopment Analysis (DEA). This study demonstrates that combining DEA and MVEP yields an efficient portfolio composition—BBCA (87.1%), BMRI (5.9%), and ARTO (2.4%)—delivering a 0.03% return with 2.2% risk, highlighting its effectiveness in balancing risk-return and asset utilization. The integrated DEA-MVEP approach serves as a strategic model for stock selection and portfolio management, particularly in banking. Investors are advised to evaluate not only historical returns but also stock efficiency for optimal portfolio construction.

Keywords*: risk-return balance, portfolio optimization, Mean-Variance Efficient Portfolio, Data Envelopment Analysis*

ABSTRAK

Saham tetap menjadi investasi yang sangat diminati, menawarkan potensi keuntungan tinggi disertai dengan risiko yang signifikan. Portofolio optimal bertujuan untuk memaksimalkan keuntungan sambil meminimalkan kerugian, yang dapat dicapai melalui metode seperti Mean-Variance Efficient Portfolio (MVEP) dan Data Envelopment Analysis (DEA). Studi ini menunjukkan bahwa kombinasi DEA dan MVEP menghasilkan komposisi portofolio yang efisien—BBCA (87,1%), BMRI (5,9%), dan ARTO (2,4%)—dengan imbal hasil 0,03% dan risiko 2,2%, menyoroti efektivitasnya dalam menyeimbangkan risiko-imbal hasil dan pemanfaatan aset. Pendekatan DEA-MVEP terintegrasi berfungsi sebagai model strategis untuk pemilihan saham dan manajemen portofolio, terutama di sektor perbankan. Investor disarankan untuk mengevaluasi tidak hanya imbal hasil historis tetapi juga efisiensi saham untuk konstruksi portofolio yang optimal.

***Kata kunci**: keseimbangan risiko-imbal hasil, optimasi portofolio, Mean-Variance Efficient Portfolio, Data Envelopment Analysis*

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