

**THE ANALYSIS OF FIXED INCOME FUNDS EFFICIENCY
PERFORMANCE USING DATA ENVELOPMENT ANALYSIS IN 2005-2009**

THESIS

Presented as Partial Fulfillment of the Requirements for the Degree of Sarjana
Ekonomi (S1) in International Business Management Program Faculty of Economics,
Atma Jaya Yogyakarta University



Compiled by:

Gabriel Dega Weliandra

Student ID Number: 07 12 16963

**FACULTY OF ECONOMICS
ATMA JAYA YOGYAKARTA UNIVERSITY
NOVEMBER 2010**

Faculty of Economics
Atma Jaya Yogyakarta University

I hereby recommend that the thesis prepared under my supervision by

Gabriel Dega Weliandra

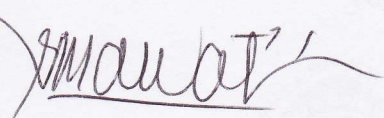
Student ID Number: 07 12 16963

Thesis entitled

**THE ANALYSIS OF FIXED INCOME FUNDS EFFICIENCY
PERFORMANCE USING DATA ENVELOPMENT ANALYSIS IN 2005-2009**

Be accepted in partial fulfillment of the requirements for the Degree of Sarjana
Ekonomi (S1) in International Business Management Program Faculty of Economics,
Atma Jaya Yogyakarta University

Advisor,



Prof. Dr. J. Sukmawati Sukamulja, MM.

Dated November 16, 2010

This is to certify that the thesis entitled

**THE ANALYSIS OF FIXED INCOME FUNDS EFFICIENCY
PERFORMANCE USING DATA ENVELOPMENT ANALYSIS IN 2005-2009**

Presented by

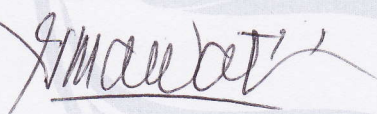
Gabriel Dega Weliandra

Student ID Number: 07 12 16963

Has been defended and accepted in December 13, 2010 towards fulfillment
of the requirements for the Degree of Sarjana Ekonomi (S1) in
International Business Management Program Faculty of Economics,
Atma Jaya Yogyakarta University

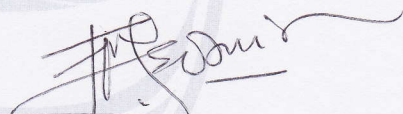
Examination Committee

Chairman

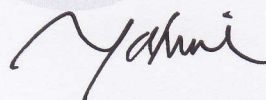


Prof. Dr. J. Sukmawati Sukamulja, MM.

Member



Drs. F. Wisnu Isdaryadi, MBA.

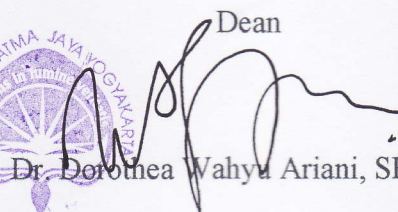


A. Jatmiko Wibowo, SE., SIP., MSF.

Yogyakarta, December 13, 2010

Dean




Dr. Dorothea Wahyu Ariani, SE., MT.

FAKULTAS
EKONOMI

AUTHENTICITY ACKNOWLEDGEMENT

I, the writer of this thesis hereby declare that I compiled this thesis by myself. I fully acknowledge that my writing does not contain parts of others' writing, except for those that have been cited and mentioned in the bibliography.

Yogyakarta, November 2010



Gabriel Dega Weliandra

ACKNOWLEDGEMENT

Praise to Jesus Christ for His love, blessing, guidance, and persistence that is bestowed upon me during the process of completing this thesis. I may not be able to take the pressure without Your patience that kept telling me to stay on the right track. Thank you for the people around me who always support, encourage, care, and all kindness that they showed to me every time I faced a wall in front of me. I would like to use this opportunity to deliver my thankful feelings and appreciation toward those who had been very helpful during my thesis project:

1. My mom Dra. Yulia Ayriza, M.Si. that gives me advice how to write a proper thesis and my dad Yudhie Weliandra who motivates me to never say give up. They are my family that I can meet and share anytime.
2. My brother Yaya and my sister Lita who always makes me smile when I felt like meeting a dead end on my thesis.
3. My advisor, Prof. Dr. J. Sukmawati Sukamulja, MM. that pays attention on my progress and gives me directions to complete this thesis so that I could meet the deadline. Thank you for your patience and time. I am lucky to have you as my advisor.
4. Coordinator on international program, M. Parnawa Putranta, MBA., Ph.D. who shares the experience about students that took thesis.

5. Staff on international program, Ag. Aditya Oktabrian SIP. that helps me a lot on fulfilling the administrative requirement for thesis. You have been a great help.
6. My friends on international class especially Mima, Nia, Yohan, Silvi, Grammy, April, Steffi, Niken, Icha, Dhisa, and Prita who listens on my sharing stories and hardships while working on my project.
7. My friends during rural development internship in Kebonagung Village especially Henry, Puella, Christin, Melissa, Banang, Veni, Corin, Driar, Julius, Juli, Wahyu, Yoris, and Jaya thank you for your cooperations.
8. All my lecturers on international class that I cannot mention one by one. Thank you for the knowledge you gave me during university.
9. My family in America who always expects me to graduate soon from university and become a successful person.
10. The staffs in library that I cannot mention one by one. They helped me to find the references I need.

With much appreciation,

Gabriel Dega Weliandra

TABLE OF CONTENTS

| | |
|-----------------------------------|------|
| TITLE PAGE..... | i |
| APPROVAL PAGE..... | ii |
| COMMITTEE APPROVAL PAGE..... | iii |
| AUTHENTICITY ACKNOWLEDGEMENT..... | iv |
| ACKNOWLEDGEMENT..... | v |
| TABLE OF CONTENTS..... | vii |
| LIST OF TABLES..... | x |
| LIST OF APPENDIXES..... | xii |
| ABSTRACT..... | xiii |
| INTISARI..... | xiv |
| CHAPTER I INTRODUCTION..... | 1 |
| A. Research Background..... | 1 |
| 1. Problem Statement..... | 10 |
| 2. Scope of the Research..... | 11 |
| 3. Originality of Writing..... | 12 |

| | |
|--|-----------|
| B. Objective and Benefit of the Research..... | 12 |
| 1. Objective of the Research..... | 12 |
| 2. Benefit of the Research..... | 12 |
| C. Writing Systematic..... | 13 |
| CHAPTER II THEORETICAL BACKGROUND AND PREVIOUS RESEARCH.. | 15 |
| A. Theoretical Background..... | 15 |
| 1. Investment..... | 15 |
| 2. Mutual Fund..... | 17 |
| 3. Net Asset Value..... | 25 |
| 4. Conditional Value at Risk..... | 25 |
| 5. Standard Deviation..... | 27 |
| 6. Efficiency Measurement System..... | 28 |
| 7. Data Envelopment Analysis..... | 28 |
| B. Previous Research..... | 30 |
| C. Hypothesis Development..... | 32 |
| CHAPTER III RESEARCH METHODOLOGY..... | 33 |
| A. Sampling..... | 33 |
| B. Data and Data Gathering..... | 35 |
| 1. Data..... | 35 |
| 2. Data Gathering..... | 35 |

| | |
|---|-----|
| C. Variable and Variable Measurement..... | 36 |
| 1. Variable..... | 36 |
| 2. Variable Measurement..... | 36 |
| D. Method of Analysis and Hypothesis Testing..... | 39 |
| 1. Method of Analysis..... | 39 |
| 2. Hypothesis Testing..... | 40 |
| CHAPTER IV DATA ANALYSIS..... | 45 |
| A. Data Description..... | 45 |
| B. Result of the Analysis..... | 109 |
| CHAPTER V CONCLUSION..... | 112 |
| A. Conclusion..... | 112 |
| B. Managerial Implication..... | 113 |
| C. Research Limitation and Suggestion..... | 114 |
| BIBLIOGRAPHY..... | 116 |

LIST OF TABLES

| | |
|---|----|
| Table 1: Best Five Equity Funds Performance as in October 6 th , 2010..... | 4 |
| Table 2: Best Five Fixed Income Funds Performance as in October 6 th , 2010..... | 5 |
| Table 3: Best Five Money Market Funds Performance as in October 6 th , 2010..... | 6 |
| Table 4: Active and Listed Fixed Income Funds in 2005-2009..... | 34 |
| Table 5: Efficiency Score of CIMB-Principal Income Fund A..... | 46 |
| Table 6: Efficiency Score of Danamas Pasti..... | 49 |
| Table 7: Efficiency Score of First State Indonesian Bond Fund..... | 52 |
| Table 8: Efficiency Score of Fortis Rupiah Plus..... | 55 |
| Table 9: Efficiency Score of Mandiri Investa Dana Obligasi Seri II..... | 58 |
| Table 10: Efficiency Score of Manulife Obligasi Unggulan..... | 61 |
| Table 11: Efficiency Score of Mega Rido Dua..... | 64 |
| Table 12: Efficiency Score of Reksa Dana Dana Pasti.. .. | 67 |
| Table 13: Efficiency Score of Reksa Dana Tiga Pilar Dana Tetap..... | 70 |
| Table 14: Efficiency Score of Bahana Dana Arjuna..... | 73 |

| | |
|---|-----|
| Table 15: Efficiency Score of Reksa Dana Brent Pendapatan Tetap..... | 76 |
| Table 16: Efficiency Score of Reksa Dana Ekofix..... | 79 |
| Table 17: Efficiency Score of Reksa Dana Ganesha Abadi..... | 82 |
| Table 18: Efficiency Score of Reksa Dana Investasi Reksa Premium..... | 85 |
| Table 19: Efficiency Score of Reksa Dana ITB-Niaga..... | 88 |
| Table 20: Efficiency Score of ORI..... | 91 |
| Table 21: Efficiency Score of Pavillion Dana Anugrah..... | 94 |
| Table 22: Efficiency Score of Reksa Dana Pendapatan Tetap Abadi II..... | 97 |
| Table 23: Efficiency Score of Reksa Dana Samuel Dana Pasti..... | 100 |
| Table 24: Efficiency Score of Schroder Dana Mantap Plus..... | 103 |
| Table 25: Efficiency Score of Trimegah Dana Stabil..... | 106 |
| Table 26: Overall Fixed Income Funds Performance..... | 109 |

LIST OF APPENDIXES

- Appendix 1: Monthly Conditional Value at Risk, Standard Deviation, Net Asset Value, and Return Data for Observed Fixed Income Funds in 2005-2009
- Appendix 2: Monthly Benchmarks and Slacks for Observed Fixed Income Funds in 2005-2009
- Appendix 3: Monthly Conditional Value at Risk, Standard Deviation, Net Asset Value, and Return Data for Indonesian Government Bond Indices in 2005-2009
- Appendix 4: Critical Values of t for Upper-Tail Area

**THE ANALYSIS OF FIXED INCOME FUNDS EFFICIENCY
PERFORMANCE USING DATA ENVELOPMENT ANALYSIS IN 2005-2009**

Compiled by

Gabriel Dega Weliandra

Student ID Number: 07 12 16963

Supervisor

Prof. Dr. J. Sukmawati Sukamulja, MM.

ABSTRACT

The purpose of this study is to analyze the performance of observed fixed income funds from efficiency aspect using data envelopment analysis. Performance of Indonesian Government Bond Indices will be used as the standard and comparison with the observed fixed income funds.

Samples of this research took time period in 2005-2009. Conditional value at risk and standard deviation are the input variables, while net asset value and return are the output variables to find the efficiency score of fixed income funds. Efficiency measurement system is utilized to acquire the efficiency score within the given time period.

Result of the study indicates that the majority of funds have performance above the standard. Funds that experienced high sample standard deviation tend to have insignificant result on their performance. Fund that has very good efficiency recorded monthly efficiency close to 1 or perfect. Only few months recorded efficiency below standard and that is still close to the limit.

Keywords: Efficiency, Data Envelopment Analysis, Fixed Income Funds, Indonesian Government Bond Indices, Conditional Value at Risk, Standard Deviation, Net Asset Value, Return, and Performance

**ANALISIS PERFORMA EFISIENSI REKSA DANA PENDAPATAN TETAP
MENGUNAKAN DATA ENVELOPMENT ANALYSIS TAHUN 2005-2009**

Disusun oleh

Gabriel Dega Weliandra

Nomor Mahasiswa: 07 12 16963

Pembimbing

Prof. Dr. J. Sukmawati Sukamulja, MM.

INTISARI

Tujuan dari pembelajaran ini adalah untuk menganalisa performa reksa dana pendapatan tetap dari aspek efisiensi menggunakan data envelopment analysis. Performa dari Index Obligasi Pemerintah Indonesia akan digunakan sebagai standar dan perbandingan dengan reksa dana pendapatan tetap.

Sampel dari penelitian ini diambil pada tahun 2005-2009. Conditional value at risk dan standar deviasi merupakan variabel input, sementara nilai aktiva bersih dan return merupakan variabel output. Efficiency measurement system digunakan untuk mendapatkan nilai efisiensi pada tahun penelitian.

Hasil pembelajaran mengindikasikan bahwa mayoritas reksa dana memiliki performa di atas standar. Reksa dana yang mengalami standar deviasi sampel tinggi cenderung memiliki performa yang tidak signifikan. Reksa dana yang memiliki efisiensi amat baik mencatat efisiensi mendekati 1 atau sempurna. Hanya beberapa bulan yang mencatat efisiensi di bawah standar dan itupun masih mendekati standar.

Kata kunci: Efisiensi, Data Envelopment Analysis, Reksa Dana Pendapatan Tetap, Indeks Obligasi Pemerintah Indonesia, Conditional Value at Risk, Standar Deviasi, Nilai Aktiva Bersih, Return, dan Performa