



**3rd International
Conference**

on **QUANTITATIVE METHODS**
USED IN **ECONOMICS**
and **BUSINESS**

Proceedings of

**3rd INTERNATIONAL CONFERENCE
ON QUANTITATIVE METHODS USED
IN ECONOMICS AND BUSINESS**

SECRETARIAT OF INTERNATIONAL CONFERENCE
Faculty of Economics, Universitas Malahayati
Jalan Pramuka No. 27 Kemiling, Bandar Lampung
Telp. 62-721-271114, Fax : 62-721-271119
e-mail : iingl@univ-malahayati.ac.id, alpha_usman@yahoo.com,
ematya04@yahoo.com

UNIVERSITAS MALAHAYATI
BANDAR LAMPUNG, INDONESIA
JUNE 16-18, 2010





3rd International Conference

on QUANTITATIVE METHODS
USED IN ECONOMICS
and BUSINESS

PREFACE

The third International Conference on Quantitative Methods Applied in used Economics and Business was conducted by Faculty of Economic, Universitas Malahayati on 16-18 June 2010. The conference was organized by Faculty of Economic Universitas Malahayati and collaborated with Universiti Malaysia Terengganu (UMT) and Universiti Putra Malaysia (UPM).

The participants of the conference are about 200 come from more than 20 higher institution among others: Institute Pertanian Bogor, Universiti Putra Malaysia, Universitas of Peshawar Pakistan, Universitas Indonesia, Universitas Gunadarma, Universitas Bina Nusantara Jakarta, Universiti Teknologi Marak Malaysia, Universitas Trunojoyo Madura, Universitas Jambi, Universitas Haluoleo, Politeknik Lampung, Universitas Lampung, Universitas Syarif Hidayat Jakarta, Universitas Widyatama, Universitas Nurtanio Bandung and Universitas Malahayati. Which reflect the importance of the International Conference on Quantitative Methods Used in Economics and Bussiness.

I hope this conference will become a place for scientists and economicst to share their knowledge and experience and also to promote their expertise in their fields.

This kind of conference will surely have a positive impact on higher education in general as well as development of science, economics, bussiness and research, in particular. For higher education in Indonesia, it is expected that this conference will encourage the faculty members as researchers to do more research as one of their duties.

On behalf the Steering Committee, we would like to express our deepest gratitude to the Foundation Alih Technology, Rector Universitas Malahayati, International Advisory Board members, and also to all participants. We are also grateful to all organizing committee and all the reviewers, without whose efforts such a high standard for the conference could not have been attained. We would like to axpress our deepest gratitude to the Faculty of Economic Universitas Malahayati for conducted such conference. This is the third International Conference for the Faculty and we expect that this will become ordinary activity for the Faculty of Economic.

Bandarlampung, 16 June 2010

Iing Lukman, Ph.D
The Organizing Chairman





PROCEEDINGS

3rd INTERNATIONAL CONFERENCE ON QUANTITATIVE METHODS USED
IN ECONOMICS AND BUSINESS (ICQMEB 2010)
UNIVERSITAS MALAHAYATI BANDARLAMPUNG
on June, 16-18th 2010

Editor in Chief:

Ismail Bin Mohd

Faculty of Engineering University Malaysia Terengganu

Editor Assistant:

Mustofa Usman

Faculty of Engineering, Universitas Malahayati, Indonesia

Editors:

1. Ing Lukman
Faculty of Economics, Universitas
Malahayati Bandar Lampung,
Indonesia
2. Ismail Bin Mohd
Department of Mathematics,
Universitas Malaysia Terengganu
(UMT), Malaysia
3. Agung Efriyo Hadi
Faculty of Engineering, Universitas
Malahayati Bandar Lampung,
Indonesia
4. Buhri Arifin
Universiti Malaysia Terengganu,
Malaysia
5. Warsono
Faculty of Science, Universitas
Lampung, Indonesia
6. Eka Sariningsih
Faculty of Economic, Universitas
Malahayati Bandar Lampung,
Indonesia
7. Indah Lia Puspita
Faculty of Economic, Universitas
Malahayati, Bandar Lampung,
Indonesia
8. Erna Listyaningsih
Faculty of Economic, Universitas
Malahayati, Bandar Lampung,
Indonesia





3rd International Conference

on QUANTITATIVE METHODS
USED IN ECONOMICS
and BUSINESS

**3rd INTERNATIONAL CONFERENCE ON QUANTITATIVE METHODS USED
IN ECONOMICS AND BUSINESS (ICQMEB 2010)
UNIVERSITAS MALAHAYATI BANDARLAMPUNG
on June, 16-18th 2010**

Organizing Commmittee

Chair Person	: Iing Lukman, Ph.D
Vice Chair Person	:
Secretary	: Erna Listyaningsih, S.E., M.Si
Treasurer	: Eka Sariningsih, S.E Hardini Ariningrum, S.E
Special Events	: Indah Lia Puspita, S.E.M.Si 1. Eka Heriyanti 2. Elia Susana 3. Tiara Pratiwi 4. Merlinda 5. Aprilia. R 6. Iza Feni Mirtaza 7. Septo Andeka 8. Dian Atika Srikandi 9. Kasfiy Mardiyaniy
Secretariat	: Muhammad Luthfi, S.E 1. Tambat Seprizal 2. Nurkhayati 3. Ade Trisyanto 4. Maya Puspita 5. Hanna Kigi Tamilaponti 6. Desi Eldayana 7. Putri Ayuni
Facility and Decoration	: Kusnadi, S.E., M.Si 1. Abu Rohmad, S.E 2. Hasan Saputra 3. Imam Sugiarto 4. Doni Apriyanto 5. Supriyanto 6. Zulfikar 7. Luthfi Ismail 8. Maulana Ardi 9. Tyo Frandika 10. Hanafi





3rd International Conference

on QUANTITATIVE METHODS
USED IN ECONOMICS
and BUSINESS

Consumption

: Lestari Wuryanti, S.E

1. Nova Iryanto
2. Wuri Handayani
3. Fajar Santoso
4. Rina Nuryanti
5. Rozida
6. Jamri
7. Berta Hartati Sinaga
8. Nila Nirwana

Transportation and Accomodation : Bambang Purwanto, S.E

1. Sophan Syaiful, S.E., M.M
2. Wijiono

Documentation and Publication : Fredi Setiawan, S.T

1. Beni Untoro, A.Md
2. Aminullah, S.E
3. Hermawan
4. Jan Septian Fredi
5. Imam Supi'i
6. Tri Haryanto





TABLE OF CONTENTS

PREFACE	ii
ORGANIZING COMMITTEE	iv
TABLE OF CONTENT	vi
KEYNOTE SPEAKER	1
Solving Transportation Problems Using Interval Arithmetic (<i>Ismail Bin Mohd and Herry Suprajitno</i>)	1
INVITED SPEAKER	13
A Review of Self-Organising Data Mining for Survival Analysis (<i>Iing Lukman, Noor Akma Ibrahim, Mustofa Usman, Indah Lia Puspita</i>).....	13
PRESENTER	19
Technical Skills of Entrepreneurs of Small-Scale Food Industries in Bandarlampung (<i>Keumala Hayati</i>)	19
Analysis Of Financial Variabel That Influence Dividend Payout (<i>Reza Kurniawan</i>).....	24
Analysis of Impact Interest Rate Policies For Banking Sector Capital Structure in Indonesia (<i>Sarjito Surya</i>).....	30
Planning and Budgeting Model For Managing Government Property Assets: An Aplication on Physical Assets Cost of the Court System In Indonesia (<i>Muhammad Ridwansyah</i>)	34
The Dynamics of Gold Price Relative to Indonesian Rupiah (<i>Buyung Sarita, Agusrawati, La Ode Suryadi, Satriani Wahab & Edi Cahyono</i>).....	42
Fundamental Solutions Of The Heat Equation On The Multi Spatial Variables: The Relation To The Probability Density Function Of Asset Value Dynamics (<i>Edi Cahyono, Iing Lukman, Rasas R, La Gubu, Rosnawintang & Ratna S</i>)	47
Factors Determining Exports In Pakistan: An Econometric Approach (1971-2009) (<i>Dr. Muhammad Azam</i>).....	52





Structural Model Of Land Use Change In Protected Area: Case Study at Kerinci Seblat National Park (<i>Nurul Anwar, Ardi Novra and Muhammad Ridwansyah</i>)	61
The Influence of Financial Ratio Analysis to Predict Banking Companies Profit (<i>Sendi Gusnandar Arnan</i>)	71
Analysis of Composite Stock Price Index Relations of Jakarta, Singapore, China and the United States (<i>Ardi Hamzah</i>)	76
Information Technology Risk Measurement With Octave Method (<i>Hari Setiabudi Husni, Susan</i>)	83
The effect of Banking Service Quality on the Customer Loyalty at Sharia Banks in Banda Aceh (<i>Hamdi Harmen, Sayed Mahdi, Farid</i>)	92
A Background to The Use of Bayesian Approach and Ridge Regression In Regression With Multicollinearity (<i>Muhammad Iqbal Al-Banna Bin Ismail</i>)	101
The Determinants of Government Spending in Indonesia: An Alternative Empirical Model (<i>Jaka Sriyana</i>)	108
Dynamic Relationship of Carbon Trading and Energy Commodities (<i>Rayenda Khresna Brahmana and Ai-Yee Ooi</i>)	115
The Dynamics of United States Dollar Relative to Indonesian Rupiah (<i>Manat Rahim, Jony Puspa Kusuma, Fifi Nirmala Gafaruddin, Heppi Milia & Edi Cahyono</i>)	126
Optimizing The Raw Material Sourcing For The Crude Palm Oil Factory (<i>Prasetyo H Wibowo and Syarif Hidayat</i>)	131
To Persuade Consumer to Decide Eating Meatball “Baso” (<i>Retno Dewanti, Yuliana S, Muh.Fauzan F.H and Stephanus B.M</i>)	144
Application Of Cross Entropy Method For Capacitated Vehicle Routing Problem (<i>Budi Santosa and Gladiez Florista Rera</i>)	152
Small-Medium Enterprise Superior Product Selection Using AHP Approach (<i>Dwi Kartikasari</i>)	160





3rd International Conference

on QUANTITATIVE METHODS
USED IN ECONOMICS
and BUSINESS

Fuzzy Model for Forecasting Interest Rate of Bank Indonesia Certificate (Agus Maman Abadi, Subanar, Widodo and Samsubar Saleh)	170
Long Queue Simulation Of Optimal Solutions Service Facilities In The National Library Counter Inside RI (H. Al Ikkal Arbi)	179
Evaluation Sales Information System (Anderes Gui, Ernawati and Arta Moro Sundjaja).....	187
The Impact Of Public Human Investment On The Economic, Social And Environmental Aspects (Case Study Kerinci Seblat National Park) (Ardi Novra and Muhammad Ridwansyah)	192
The Influence Of Job Stressor And Work Involvement Stressors To Work - Family Conflict Among Public University Lecturer In Surabaya (Tri Siwi Agustina).....	200
The Influence of Banking on Financial Performance to Stock Price in Indonesia (Hariandy Hasbi)	206
Business Plan Development Policy Model for Small-Medium Industry of Textiles Commodity of Finished Goods in the Regency and City of Bogor (Nunung Nurhasanah, Siti Nur Fadlilah and Gunawarman Hartono)	212
The Effects of Governmental Internal Aspects to Increase the Provincial Gross Income (PAD) in Lampung Province, Indonesia (Study on Perception of Both Officials Province Government & Lampung People) (Ahmad Habibi, Munawar Ismail and Susilo)	219
The Relationship Between Insider Ownership And Debt Policy To The Firm Value in ISX (2007-2008) (Hikmah Endraswati).....	224
Analysis And Design Of Human Resources Management Information System At Rajawali Condominium Management Office (I Gusti Made Karmawan, Yunita Rachmawati and AgustinaYosanny).....	231
Analysis Of Some Variables Influencing Policies Summary Of Industry Sector Investments In The Period 2005-2009 (Ivan Gumilar and John Henry W)	236





3rd International Conference

on QUANTITATIVE METHODS
USED IN ECONOMICS
and BUSINESS

The Influence Of Experiential Marketing, Emotional Branding, Brand Trust Towards Brand Loyalty (Retno Dewanti, Ishak Ismail and Steven Wibisono).....	241
Effect Of Experiential Marketing, Product Quality And Services Against The Purchase Decision Suzuki Motor To Increase Customer Loyalty (Hartiwi Prabowo and Dyah Budiastuty).....	250
Review Of Autonomous Maintenance Approach (Economic Aspect Of Fallen Bottle Phenomenon) (Heri Wibowo)	259
Analysis Of Tax Knowledge And Taxpayer Response To Tax Corruption News Base On Demographic Factor As A Tax Increase Strategy (Moh Khoiruddin and Vitradesie Noekent)	264
The Analysis and Design of Web-Based Marketing (Henny Hendarti).....	270
Tourist Satisfaction With Cultural Site: Situ Babakan Betawi Village (Iman Murtono Soenhadji and Priyo Purwanto)	277
Application Of Ahp Method For Selection Of Research Results Of Corn-Based Food Diversification In Rural Area (Yatim Widodo and Saronno)	282
Effect Of Increase Basic Electricity Tariff And Sales Volume To Profit Or Loss And Expected Income of PT PLN Indonesia (Tambat Seprizal, Nurmala and Eka Sariningsih).....	292
Comparation Analysis Of Financial Performance Before And After The Dual Banking System of PT Bank Rakyat Indonesia (Persero) Tbk (Erna Listyaningsih and Jecky Susanto).....	303
Mean-MVaR Portfolio Optimization Under CAPM With Lagged, Non Constant Volatility and the Long Memory Effect (Sukono, Subanar & Dedi Rosadi)	313
Evaluating Operational Efficiency of Tourism and Leisure Industry in Taiwan Applying Multi-stages Data Envelopment Analysis (Cheng-Chung Wang, Hsin-Yuan Chang and Yu-Ching Ho).....	322





Mean-MVaR Portfolio Optimization Under CAPM With Lagged, Non Constant Volatility and the Long Memory Effect *

Sukono¹, Subanar² & Dedi Rosadi³

¹Department of Mathematics, Faculty of Mathematics and Natural Science, Padjadjaran University,
Bandung, e-mail: fsukono@yahoo.com

^{2,3}Department of Mathematics, Faculty of Mathematics and Natural Science, Gajah Mada University,
Yogyakarta, ²e-mail: subanar@yahoo.com & ³email: dedirosadi@ugm.co.id

ABSTRACT

In this paper, we discuss the methods of portfolio optimization based on the mean and the Modified Value-at-Risk (MVaR) under the Capital Asset Pricing Model (CAPM) with lagged, non-constant volatility and the long memory effect. In CAPM, the returns of individual stocks (or portfolios) are assumed influenced by the market return and risk-free return. Here, we estimate the stock return betas by extending the CAPM model with lagged market factors, where the market returns are assumed to have non-constant volatility, which will be estimated using GARCH models, and the long memory effect will be modeled using ARFIMA model. The risk is measured by MVaR that is calculated using normal distribution with a confidence level c . Mean and MVaR will be used for formulation of the portfolio optimization problems. The portfolio optimization is performed using the Lagrangean Multiplier and the solution is obtained by the Kuhn-Tucker theorems. We illustrate these methods using some stocks from the Indonesian capital market.

Keywords: CAPM, GARCH, ARFIMA, MVaR, Lagrangean Multiplier, Kuhn-Tucker theorem.

