

THE IMPACT OF INVESTMENT IN THE MINING AND QUARRYING SECTOR OF EAST KALIMANTAN ON THE INDONESIAN ECONOMY: AN IRIO APPROACH

FAHIM SYAUQI JILANI



**DEPARTMENT OF ECONOMICS
FACULTY OF ECONOMICS AND MANAGEMENT
IPB UNIVERSITY
BOGOR
2024**

@Hak cipta milik IPB University

IPB University



IPB University
Bogor Indonesia

- Hak Cipta Dilindungi Undang-undang
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
 2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

Perpustakaan IPB University



@Hak cipta milik IPB University

Hak Cipta Dilindungi Undang-undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.



STATEMENT REGARDING THE THESIS, SOURCES OF INFORMATION, AND TRANSFER OF COPYRIGHT

I hereby declare that the thesis entitled "The Impact of Investment in the Mining and Quarrying Sector of East Kalimantan on the Indonesian Economy: An IRIO Approach" is my work under the direction of my supervisors and has not been submitted in any form to any university. Sources of information derived or quoted from published and unpublished works of other authors have been mentioned in the text and listed in the bibliography at the end of this thesis.

I hereby transfer the copyright of my writing to IPB University.

Bogor, January 2024

Fahim Syauqi Jilani
H14190087

Hak Cipta Dilindungi Undang-undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.



ABSTRACT

FAHIM SYAUQI JILANI. The Impact of Investment in the Mining and Quarrying Sector of East Kalimantan on the Indonesian Economy: An IRIO Approach. Supervised by SAHARA and ZULVA AZIJAH.

Equitable economic development continues to be at the forefront of building towards a prospective Indonesia. As of 2022, Indonesia's western provinces contribute to 80% of GDP while the east contributes only around 20%. Kalimantan is a region that holds great potential in developing Indonesia's economy. Wealthy in natural resources, Kalimantan focuses on becoming Indonesia's base for manufacturing industries and the barn for national energy. East Kalimantan is diversely energy resource-rich and able to fulfill this. This study aimed to analyze the linkages of East Kalimantan's mining and quarrying sector with other sectors and regions and its impact of investment on output, income, and labor. The method used is analysis of linkages and investment impact using the 2016 IRIO Table according to 17 sectors and 34 provinces. The results showed that the mining and quarrying sector had a weak ability in attracting production growth in its upstream sectors, but had a strong ability in encouraging production growth in its downstream sectors. The existence of investment in East Kalimantan's mining and quarrying sector had a large impact on the total output, income, and labor in various sectors of East Kalimantan and many other provinces in Indonesia.

Keywords: Economic Development; Investment; IRIO; Mining and Quarrying Sector

ABSTRAK

FAHIM SYAUQI JILANI. *Dampak Investasi di Sektor Pertambangan dan Penggalian Kalimantan Timur terhadap Perekonomian Indonesia: Pendekatan IRIO. Dibimbing oleh SAHARA dan ZULVA AZIJAH.*

Pemerataan pembangunan ekonomi terus menjadi fokus utama dalam membangun Indonesia yang prospektif. Pada tahun 2022, provinsi-provinsi di bagian barat Indonesia berkontribusi terhadap 80% PDB, sementara bagian timur hanya berkontribusi sekitar 20%. Kalimantan merupakan wilayah yang memiliki potensi besar dalam mengembangkan perekonomian Indonesia. Kaya akan sumber daya alam, Kalimantan berfokus untuk menjadi basis industri pengolahan dan lumbung energi nasional. Kalimantan Timur kaya akan sumber daya energi yang beragam dan mampu memenuhi hal tersebut. Penelitian ini bertujuan untuk menganalisis keterkaitan sektor pertambangan dan penggalian di Kalimantan Timur dengan sektor dan wilayah lain serta dampak investasi terhadap output, pendapatan, dan tenaga kerja. Metode yang digunakan adalah analisis keterkaitan dan dampak investasi dengan menggunakan Tabel IRIO 2016 menurut 17 sektor dan 34 provinsi. Hasil penelitian telah menunjukkan bahwa sektor pertambangan dan penggalian memiliki kemampuan yang lemah dalam menarik pertumbuhan produksi di sektor hulunya, namun memiliki kemampuan yang kuat dalam mendorong pertumbuhan produksi di sektor hilirnya. Keberadaan investasi di

sektor pertambangan dan penggalian di Kalimantan Timur memiliki dampak yang besar terhadap total output, pendapatan, dan tenaga kerja di berbagai sektor di Kalimantan Timur dan banyak provinsi lain di Indonesia.

Kata kunci: *Investasi, IRIO, Pembangunan Ekonomi, Sektor Pertambangan dan Penggalian*

@Hak cipta milik IPB University

IPB University





@Hak cipta milik IPB University

Hak Cipta Dilindungi Undang-undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

© Hak Cipta milik IPB, tahun 2024
Hak Cipta dilindungi Undang-Undang

Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan atau menyebutkan sumbernya. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik, atau tinjauan suatu masalah, dan pengutipan tersebut tidak merugikan kepentingan IPB.

Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apa pun tanpa izin IPB.



THE IMPACT OF INVESTMENT IN THE MINING AND QUARRYING SECTOR OF EAST KALIMANTAN ON THE INDONESIAN ECONOMY: AN IRIIO APPROACH

FAHIM SYAUQI JILANI

Undergraduate Thesis
as a one of the requirements to obtain a Bachelor's degree
at the Development Economics Study Program

**DEPARTMENT OF ECONOMICS
FACULTY OF ECONOMICS AND MANAGEMENT
IPB UNIVERSITY
BOGOR
2024**

- Hak Cipta Dilindungi Undang-undang
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
 2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.



@Hak cipta milik IPB University

Hak Cipta Dilindungi Undang-undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

Thesis Defense Examination Committee:

1. Prof. Dr. Ir. Dominicus Savio Priyarsono, M.S.
2. Syarifah Amaliah, S.E., M.App.Ec

Thesis Title : The Impact of Investment in the Mining and Quarrying Sector of East Kalimantan on the Indonesian Economy: An IRIO Approach
Name : Fahim Syauqi Jilani
NIM : H14190087

1st Supervisor:
Dr. Sahara, S.P., M.Si
NIP. 197405131999032001

2nd Supervisor:
Zulva Azijah, S.E., M.Si
NIP. -

Approved by



Recognized by

Head of the Department of Economics
Dr. Tony Irawan, S.E., M.App.Ec
198203062005011001

Date of Defense:
(January 5, 2023)

Date of Graduation:



FOREWORD

Praise and gratitude to Allah subhanaahu wa ta'ala for all His gifts so that this scientific work can be successfully completed. The theme chosen in the research conducted since the month of January 2023 until the month of December 2023 is regional economics, with the title “The Impact of Investment in the Mining and Quarrying Sector of East Kalimantan on the Indonesian Economy: An IRIO Approach”. Therefore, the author would like to thank:

1. The author’s parents: Mr. Nur Iswan and Mrs. Ratna Safia Hanum; the author’s younger siblings: Mirza, Nadhir, and Aneeqa Iswan; and all extended family who always provide prayers, moral and material support, attention, affection, and enthusiasm to the author.
2. Dr. Sahara, S.P., M.Si and Mrs. Zulva Azijah, S.E., M.Si, as the first and second supervisors respectively, for their guidance, knowledge, assistance, direction, and attention to the author during the process of preparing this thesis until it is completed.
3. Prof. Dr. Ir. Dominicus Savio Priyarsono, M.S. as the main examiner and Ms. Syarifah Amaliah, S.E., M.App.Ec as the examiner from the education commission for their criticism and suggestions that have been given to improve this thesis.
4. Fellow mentees Elsa Tasya Zhafira, Iqbal Gilang Purnama, and Adelia Rahmah for all their cooperation and support.
5. Friends from Economics Batch 56-58: David Richardo Sibarani, Rani Kristi Br Lingga, Dona Vania Femdika, M. Afif Naufal Siregar, Aulia Bintang, Zidan Anugrah Fauzan, Fathan Ramadian Sidik, Teuku Chaim Mohammad Heikal, and all others who can’t be mentioned one by one.
6. Lecturers and Education Staff from the Department of Economics: Dr. Tony Irawan, S.E., M.App.Ec; Mr. Fahmi Salam Ahmad, S.Stat, M.Si; Mrs. Mutiara Probokawuryan, S.E., MMgt(Econ); Mr. Maulana Sapari; Ms. Dini Anggraeni, and all others who can’t be mentioned one by one.
7. All parties who have helped the author either directly or indirectly during the study period and during the preparation of this thesis who can’t be mentioned one by one.

Hopefully this scientific work will be useful for those who need it and for the advancement of science.

Bogor, January 2024

Fahim Syauqi Jilani



TABLE OF CONTENTS

LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF APPENDIXES	ix
I INTRODUCTION	1
1.1 Background	1
1.2 Problem Formulation	2
1.3 Objectives	5
1.4 Benefits	5
1.5 Research Scope	5
II LITERATURE REVIEW	6
2.1 Investment and Economic Growth	6
2.2 Inter-Regional Input-Output Table	9
2.3 Mining and Quarrying Sector	20
2.4 Previous Research	20
2.5 Research Framework	23
III RESEARCH METHODOLOGY	24
3.1 Data Types and Sources	24
3.2 Data Analysis Methods	24
IV RESULTS AND DISCUSSION	28
4.1 The Role of East Kalimantan in Indonesia's Regional Economy	28
4.2 Analysis of the Mining and Quarrying Sector's Linkages	34
4.3 Analysis of the Impact Attributed to Investment in East Kalimantan's Mining and Quarrying Sector	37
V CONCLUSIONS AND RECOMMENDATIONS	42
5.1 Conclusions	42
5.2 Recommendations	42
BIBLIOGRAPHY	44
APPENDIXES	50
ABOUT THE AUTHOR	52

Hak Cipta Dilindungi Undang-undang
 1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
 2. Dilarang mengumumkannya dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.



LIST OF TABLES

1	Inter-Regional Input-Output (IRIO) basic framework	10
2	Forward linkages and backward linkages table	14
3	Modified IRIO framework	15
4	Sector classification in linkage and impact analysis	24
5	Province classification in linkage and impact analysis	25
6	Demand structure of East Kalimantan economic sectors (Million rupiah)	28
7	Intermediate demand of sectors met by East Kalimantan's mining and quarrying sector (Million rupiah)	29
8	Intermediate demand of other sectors in other provinces met by East Kalimantan's mining and quarrying sector (Million rupiah)	30
9	Fixed capital formation and inventory changes in East Kalimantan's economic sectors (Million rupiah)	31
10	Export Structure of East Kalimantan's economic sectors (Million rupiah)	32
11	Import Structure of East Kalimantan's economic sectors (Million rupiah)	33
12	Gross value-added structure of East Kalimantan's economic sectors (Million rupiah)	34
13	East Kalimantan's mining and quarrying sector with the largest total forward linkage value alongside other sectors in the province	35
14	East Kalimantan's mining and quarrying sector with the largest total forward linkage value alongside other sectors in other provinces	36
15	East Kalimantan's mining and quarrying sector with the largest total backward linkage value alongside other sectors in the province	37
16	East Kalimantan's mining and quarrying sector with the largest total backward linkage value alongside other sectors in other provinces	38
17	Twenty provinces with the highest impact on output formation (Million Rupiah)	39
18	Twenty provinces with the highest impact on income formation (Million Rupiah)	39
19	Twenty provinces with the highest impact on labor absorption (Persons)	40

LIST OF FIGURES

1	Growth of Gross Regional Domestic Product in provinces across Indonesia in 2022 (Percentage) (Statistics Indonesia)	2
2	Distribution map of mineral and coal resources in Indonesia in 2020 (IOP Conference Series Earth and Environmental Science)	3
3	Gross Regional Domestic Product distribution of key sectors in East Kalimantan from 2018 to 2022 (Percentage) (Statistics Indonesia)	4
4	Keynesian relationship between investment, expenditure, and income (modified from Mankiw 2023)	7
5	Research framework	23
6	Distribution map of the impact of investment in East Kalimantan's mining and quarrying sector on output formation in regions across Indonesia (Million Rupiah)	38



- 7 Distribution map of the impact of investment in East Kalimantan's mining and quarrying sector on income formation in regions across Indonesia (Million Rupiah) 40
- 8 Distribution map of the impact of investment in East Kalimantan's mining and quarrying sector on labor absorption in regions across Indonesia (Persons) 41

LIST OF APPENDIXES

- 1 Total impact of mining and quarrying sector investment in East Kalimantan on changes in output formation of other regions (Million rupiah) 47
- 2 Total impact of mining and quarrying sector investment in East Kalimantan on changes in income formation of other regions (Million rupiah) 48
- 3 Total impact of mining and quarrying sector investment in East Kalimantan on changes in labor absorption of other regions (Persons) 49

Hak Cipta Dilindungi Undang-undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.