

DETERMINANTS AND EFFECTS OF STRUCTURAL ECONOMIC CHANGE ON EMPLOYMENT AND INCOME INEQUALITY IN EAST KALIMANTAN

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**DETERMINANTS AND EFFECTS OF
STRUCTURAL ECONOMIC CHANGE ON EMPLOYMENT
AND INCOME INEQUALITY IN EAST KALIMANTAN**

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Abstract

The objectives from this research are to knowing and analyzing the influence of natural resources revenue-sharing, government capital expenditure, investment, road infrastructure towards labor absorption either direct or indirectly through economic structure comprise primary, secondary, and tertiary sectors. This research also examines influence of labor absorption towards income imbalance directly in East Kalimantan.

From the 14 districts/cities in East Kalimantan province, this study takes totally sample of 13 districts/cities, namely Balikpapan, Samarinda, Bontang, Berau City, West Kutai regency, East Kutai regency, Penajam Paser Utara, Pasir Malinau, Nunukan, Bulungan, and Tarakan. Type of data used in this research is secondary data in the form of time series of the 2001-2012 annual in each districts/city (as many as 13 districts/cities).

This study used the approach path analysis as a technique to analyze the structural relationships. Development of the model in this study was to examine the relationship between exogenous and endogenous variables, simultaneously. Based on research result, revealed that there is an affected result that relate to the impact of determinants economic structure changes in East Kalimantan.

Keywords : economy structure, labor absorption, income imbalance

BACKGROUND

The issue of imbalance in Indonesia has become unresolved problem in developments meadow. This imbalance emerged either from imbalance of cross-province area development, intra-city or regency area, although economy imbalance from income distribution division spread more evenly.

Income imbalance in East Kalimantan looks become a critical problems that need to be analyzed. This is due to income imbalance trends (base on Gini index) between East Kalimantan and Indonesia.

Prism on data in the field, the economy of East Kalimantan all this time much contributed by sector based on non-renewable resource-based activities, namely mining sector and industry management of oil and gas oriented.

The phenomenon that should be a concern here is whether the "dominant" sector has implications and a great magnitude in creating employment. If noted from sector PDRB performance expansion and sector labor absorptions performance, it appears that mining and excavation sector, also oil and gas processing industry sector, give a great economy advantage to

East Kalimantan's PDRB. However from labor absorption that generated not the same. If we compare base to this two sectors, namely mining and excavation sector that dominate East Kalimantan's PDRB portion and agriculture sector that has a very small contribution on East Kalimantan's PDRB, so that mining sector domination evidently only able to absorb quarter of agriculture sector ability in labor pervade. This mean has occurred structural imbalance in East Kalimantan.

Imbalance in economy sector is a problem besides income imbalance. Because on the one hand mining sector and oil and gas industry sector dominate economic structure, however on the other hand those sectors has lowest ability in labor absorptions.

Reviewed more carefully, there is an economy anomaly in East Kalimantan, that is the economy sector which establish East Kalimantan's PDRB has not too big role in labor pervade, conversely sector whose role is not very decisive PDRB precisely has a massif number in labor absorption. For example Wijaya's research (2013), find that the agriculture sector indeed absorb high labor but doesn't have a great effects on increasing household income.

Hence, this research try to analyzing the effects from decentralization of development which has been running in East Kalimantan Province impacted on economy, labor absorption and income imbalance issue.

RESEARCH OBJECTIVES

The objectives from this research are to knowing and analyzing:

- (1) The influence of natural resources revenue-sharing on labor absorption either direct or indirectly through economic structure comprise primary, secondary, and tertiary sectors.
- (2) The influences of government capital expenditure on labor absorption either direct or indirectly through economic structure that comprise PDRB's sharing primary, secondary, and tertiary sectors.
- (3) The influences of investment on labor absorption either direct or indirectly through economic sector comprise primary, secondary, and tertiary sectors.
- (4) The influences of road infrastructure on labor absorption either direct or indirect through economic structure comprise primary, secondary, and tertiary sectors.
- (5) The influences of labor absorption on income imbalance directly in East Kalimantan Province.

THEORITICAL STUDY

Decentralization Theory in Relation To the Economic Development

For more than a decade in the search of the truth is decentralization (public sectors) does indeed have an impact on economy (economic growth, income per capita, the change of economic structure) have been done. Previous theory stated that there is a positive relationship among those two variables and decentralization become prescription for growth on development of the country, although it is difficult to prove empirically.

A classic theory from Tiebout (1956 in Busser, 2011) and decentralizations hypothesis theory that introduced by Oates (1972 in Busser, 2011), both agree that the provision of local public goods will be efficient and more close with voter preference average in decentralizations system. Leviathan hypothesis that expressed in Brennan and Buchanan (1980; 185), which in essence found, "The government intrusion number in econom⁴ "ceteris paribus" should be smaller and bigger than the tax and spending decentralized," also play important role in shaping the debate.

Basically, there is no direct formal theories that connect decentralization and economic growth, especially the economic structure changes or income per capita. However, many theory,

show the channel probability through decentralization which can cause growth. Increase of efficient allocations public goods is the most examples cited.

More allocative efficiency maybe came from information and transaction costs that lower in local government, because of that the officials that are close to the citizens from government's federal agents. This closeness to the people also can generate growth by increasing democratic institutions (McNabb and Martinez-Vazquez, 2003).

In more update context in Indonesia, natural resources revenue-sharing (DBH-SDA) statutory number 33 of 2004 about central and district finance are the funds derived from natural resources like forestry, general mining, fishery, crude oil mining, crude gas mining and geothermal mining. Conceptually, in decentralization era the objective of DBH-SDA administrations is for equalization.

Nguyen, et al., (2012) explains conceptually the natural resources transmission toward the economy in a region especially in developing country. Nguyen, et al., argues that the regions with a great number of wealth of natural resources have an opportunity to develop their region better and faster. This opportunity further can be seen from economic growth that high, a low poverty and income imbalance, a better quality of the environment and so on.

Several empiric study relate on this topic have been done. For example Buser (2011) reviewed the effect from public sector decentralization towards per capita income. The analysis scopes are done in 20 high-income countries belonging in OECD during 1972-2005. The results show that the revenue-sharing (as the measure or reflection from decentralization) positively effected and significant consistently towards economy performance which is proxied using per capita income in OECDs countries consist of 20 high-income countries. This indicates that government income proportion increasing in sub-nation increase the income level at a reduced rate.

Unbalanced Development Theory

Unbalanced development theory refute balance development theory which is argue that a development need a simultaneous in many sectors. According to Hirschman (1958) in Arsyad (1999) about unbalanced theory, in development process would seem economic activities sector that experienced development with different rates (look Arsyad, 1999). This results an unstable transformation pattern of economic structure.

Unbalanced development corresponding to regions that experienced problem about the lack of resources such as nature, finance, and intellectual, so that the development efforts at a time centralized on several sector that will encourage investment affected in several sector in the next period. Therefore the scarce resources can be used efficiently every stage.

The Change of Economic Structure Theory and Implications: Agriculture Sector, Management Industry, and Commerce Service

Economic structure transformation defined as a condition which occur the changes of sectoral composition structure on Bruto Domestic Products (PDB). Krelle in Hackel and Westlund (1991) further expand into the changes of labor structure compositions, export-import compositions, and revenue (salary) received by production factor.

Todaro and Smith (2012) explained the economic structure transformation characterized by condition, namely agriculture sector relative role which is decreases followed with labor absorption in agriculture sector which also decrease. Then the market share of manufacture industry increase and followed by increasing work opportunity quota in this sector in dominant number. Along with more and more people those worked and more equitable income distributions, so that the service sector and commerce thrive.

Structural transformation also focuses on the mechanisms of economic transition from traditional agriculture sector into a modern industrial economy. This stems from the agricultural sector to a sector that is dominated by industry and services (including commerce) (Todaro and Smith, 2012). The pattern of economic structure is determined by the performance of economic sectors in the region. Thus the change or shift in the economic structure carries far-reaching implications on labor absorption.

Sectoral transformation was first introduced by Fisher in 1935. Fisher introduced the concept of activities of primary, secondary, and tertiary (Temenggung, 1999). The primary sector is defined as agricultural activities and farm production as well as some cases in mining activities. Secondary sector consists of manufacturing and construction activity. The tertiary activities consist of the transportation and communication, commerce, administration and other services. Then Fisher's research is supported by Clark which is the basis for studies of economic growth and structural changes after World War II.

According to Todaro and Smith (2012), structural rates change and a high structural growth attach²⁰ in growth process and several structure growth component covered by shifting gradually from agriculture sector to non-agriculture sector, even from industry sector to service. This shift can be seen from the role towards production increase or labor and contribution in formation of Bruto Domestic Income.

Kuznets, the change of economic structure or structural transformation characterized by the changing contribution of several sector percentage in economic development which caused by human intensity and the changing technologies generally (Sukirno, 1985). Djohadikusumo (1994) said that the structural changes usually marked with changes and shift from primary production sector activity (agriculture and mining) to secondary sector (manufacture industry and construction) and tertiary sector (commerce and services).

Clark & Fisher theory also explain relationship between the production structure and employment structure according to sector. According to this theory, higher income of the region the smaller role of agriculture in absorb the labor. Conversely, industry sector more vital as a labor reservoir container. This situations occur because of the citizens able to buy (purchasing power) or do last demand (consumptions), so in the end will cause the change of production structure corresponding to the shift in demand. Namely shifts of work opportunities and the allocation of funds from primary sector to secondary and finally to tertiary.

Demand transmission patterns that affect of the economic structure transformation refers to Engel law related to the elasticity of demand for foodstuffs on the change in income. Engel's Law says the elasticity of demand for food is smaller than the elasticity of demand for non-food. This behavior gives a great impact on accelerating the transformation of economic structure.

Chenery and Syrquin (1975) agree with Clark-Fisher (Jhingsan, 2003), which income (per capita) play importance role in structu¹⁶ transformations process in a country. Chenery-Syrquin shows their analysis result qauntiative relationship between per capita income and economy and industry sector contributions percentage.

Initially the structure transformation occurs from changes in the demand side due to the per capita income and begins the uneven distribution of income. Transformation demands promote a change in the structure of PDB (production) and commerce. Eventually lead to changes in the structure of the workforce back impact on rising incomes and changes in income distribution.

In addition to per capita income, it also reflects the transformation of the economic structure is the change in the structure of domestic demand, the production structure, the structure of commerce (export-import), also the demographic and income distribution.

Because generally the theory talk about the ideal conditions, the theory of Clark-Fisher and

Chenery-Syrquin began tested by several studies in Southeast Asia, particularly Indonesia. Sitanggang research and Nachrowi (2004) found that the agricultural sector in Indonesia work optimally absorb labor even though salary in the sector tends to be low. Their study also found a trend towards sectors transformation, from agriculture to industry and commerce services in several provinces in Indonesia.

The Economic structure characteristics in Indonesia indeed seem to experience the shift from sector which basis on traditional agriculture to modern manufacture industry in urban areas. Sudihartono and Muhyiddin (2008) study during 1984-2004, Indonesia has been towards a semi industrialization era. It is considered stronger, since period 1990-2004, which is there is e massif movement from agriculture sector labor to manufacture industry. Their research proves that side demand effect toward economic sector output (agriculture and industry) increase labor absorption in both sectors. As for salary variables do not have a significant affect on labor absorption in both sectors.

Tran and Doan (2010) prove the circumstances in which there is a relationship between economic structure and changes on employment. His research in Vietnam presents the effects of industrialization on the structure of the economy and workforce during the economic transition in Vietnam. Although Vietnam has made significant progress in changing the economic structure in which part of the contribution of agriculture in PDB has declined dramatically over the past two decades, the structure of labor quickly changes as the structure of its economy. Consequently, most of the labor force remains in agriculture. The economic reform is less effective to shift the workers from the agricultural sector because most of the country's investment has been allocated for capital-intensive industries. These results are relevant to the investigation by Sitanggang and Nachrowi (2004) and Sudihartono and Muhyiddin (2008) in Indonesia.

CONCEPTUAL FRAMEWORK

The process of structural transformation that occurred in Indonesia is the result of long-term development policies planned. Development planning is done solely for the purpose of welfare-oriented society. The economic growth has led to changes in the economic structure. The policy of engineered structural transformation is necessary to maximize the positive impact of such transformation in the economy.

These research objectives to review the structural transformation effect in East Kalimantan towards labor absorption and income imbalance in East Kalimantan. The reasons are choosing East Kalimantan, first, because of primary sector domination (mining) higher. Second, there is a symptom that indicates the change of economic structure such as say theoretically not occurs. Third, there is imbalance labor absorption among the sectors. Fourth, because of the positions in East Region of Indonesia and PDRB magnitude in East Kalimantan including big five in Indonesia so that it can represent the conditions of Indonesia.

This study focuses on the structural transformation of the economy (economic landscape) in East Kalimantan province by analyzing the determinants factor that affect the structure of East Kalimantan's economy and its effect on labor absorption and income imbalance.

The main theory of this study was designed using the theory of Hirschman (grandtheory) which mentions that the economic transformation moving from the primary sector to the secondary and tertiary. The change was determined by the design of government planning in the allocation of investment, government spending, and infrastructure in sectors that are considered a priority. Further movement of this sector will ultimately have an impact on employment and income inequality.

The influence of each of the exogenous variables on endogenous variables can be known

with the bases on empirical studies that have been presented in the previous chapter. In detail can be explained one by one, namely, first, Revenue-Sharing (natural resources) positively affects the economic structure reflected on sharing performance primary sector, the secondary sector and the tertiary sector in the economy of East Kalimantan. Second, the capital expenditure is a positive influence on the share of primary sector, secondary sector and the tertiary sector. Third, investment positively effect on the share of primary sector, the secondary sector and the tertiary sector. Fourth, the road infrastructure is also positively effect on the share of the primary sector, the secondary sector and the tertiary sector. So to summarize, the decentralization of development which represented revenue-sharing from natural resources, government capital expenditures, road infrastructure and investments positively affect the economic structure represented by the performance of the PDB primary, secondary, and tertiary sector in the region.

Furthermore, revenue-sharing, capital expenditures, investments, and road infrastructure are negatively affect income imbalance directly. Natural resource revenue-sharing, government capital expenditures, road infrastructure, and investments also affect employment both directly and indirectly through sectoral PDRB. Sector PDRB primary, secondary, and tertiary increased, the greater the jobs created and the more labor absorption that occurred. The higher number of labor absorptions the lower income imbalance and poverty.

Referring to the premises above, it can be designed a research model that refers to the flow of that; Natural resource revenue-sharing, government capital expenditures, road infrastructure, and investment, and at the same time is also directly and indirectly affect labor absorption.

For further details, this Research's Conceptual Framework is as shown in the Figure 1.

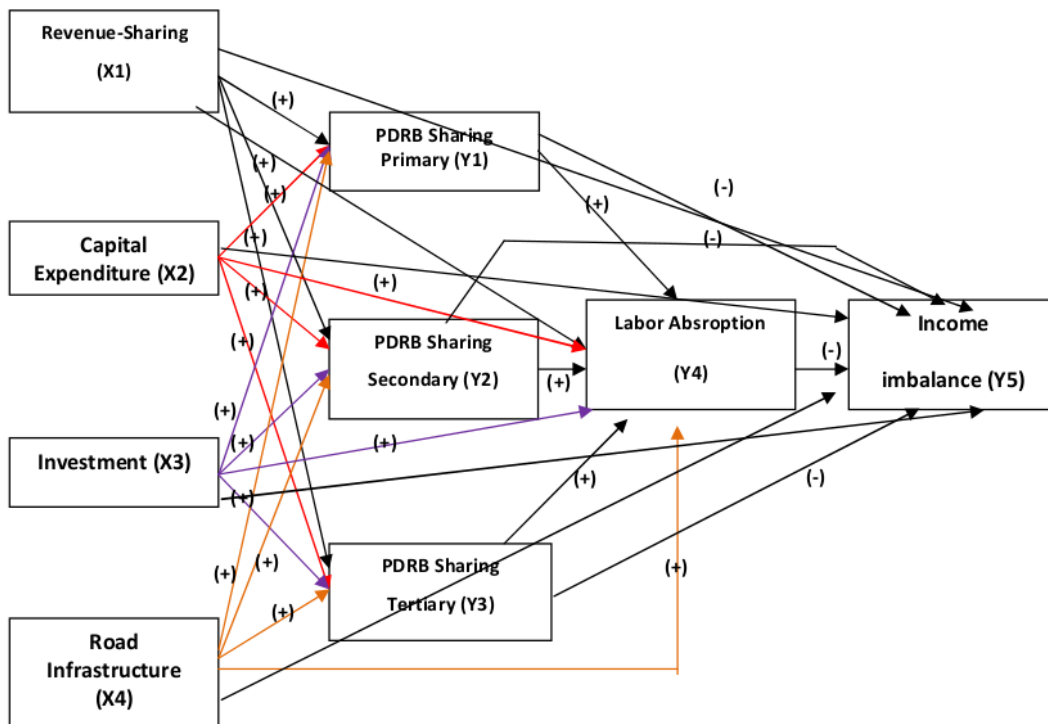


Figure 1. Research Conceptual Framework

In accordance with the conceptual framework above, so that the models built are:

$$\begin{aligned}
 Y_1 &= f(X_1, X_2, X_3, X_4) \\
 Y_2 &= f(X_1, X_2, X_3, X_4) \\
 Y_3 &= f(X_1, X_2, X_3, X_4) \\
 Y_4 &= f(X_1, X_2, X_3, X_4) \\
 Y_4 &= f(Y_1, Y_2, Y_3, X_1, X_2, X_3, X_4) \\
 Y_5 &= f(Y_1, Y_2, Y_3, Y_4, X_1, X_2, X_3, X_4)
 \end{aligned}$$

Where:

- X_1 = Natural Resource Revenue-Sharing (DBH-SDA)
- X_2 = Capital expenditure
- X_3 = Investment
- X_4 = Road Infrastructure
- Y_1 = Primary PDRB's sharing/ agriculture, mining, oil and gas sectors
- Y_2 = Secondary PDRB's sharing/ industry management
- Y_3 = Tertiary PDRB's sharing/ service and commerce
- Y_4 = labor absorption
- Y_5 = Income imbalance

HYPOTHESIS

Based on the problems that have been raised and the conceptual framework described earlier, then it can put forward a hypothesis as follows:

- (1) There is a negative effect of Revenue-Sharing, Capital Expenditure, Investment and Infrastructure road towards income imbalance.
- (2) There is a positive effect of Revenue-Sharing, Capital Expenditures, Investment, and the road infrastructure to changes in the economic structure of the primary sector, secondary, and tertiary in East Kalimantan Province.
- (3) There is a direct positive effect of Revenue-Sharing, Capital Expenditures, Investment, and the road infrastructure on labor absorption.
- (4) There is a positive effect of Revenue-Sharing, Capital Expenditures, Investment, and the road infrastructure on labor absorption indirectly through the structure of the economy (in the form of share of PDRB's primary sector (agriculture, mining and oil and gas), secondary (manufacturing), and the tertiary sector (services and commerce)).
- (5) There is a negative effect of Revenue-Sharing, Capital Expenditure, Investment and Infrastructure road against income imbalance indirectly through the structure of the economy and labor absorptions in East Kalimantan.

METHODOLOGY

Research Design

This research is an explanatory research. According to Sekaran (2009), explanatory research is research that aims to test a theory or hypothesis to strengthen or even reject the theory or hypothesis. A theory or hypothesis is reflected in the relationship between researches variables are: natural resources revenue-sharing (DBH-SDA), local government capital expenditures, investments and road infrastructure, all of which is an exogenous variable in this study. While for the endogenous variables consist of proportion (share) of the PDB primary sector, the PDB secondary sector, the PDB tertiary sector, labor absorption, and income imbalance.

The main theory used as the foundation in the research is the Hirschman's theory which states that the economic structure should ideally move from the primary sector to the secondary and tertiary. In addition, this study also grounded on the theory proposed by Lewis. That according to

the mechanism of the transformation of the economic structure that is common in Less Developing Countries is focused on agriculture to industry and services. Agricultural industrialization is the transmission to the process of transforming the economy into the modern economy.

Research Samples

From the 14 districts/cities in East Kalimantan province, this study takes totally sample of 13 districts/cities, namely Balikpapan, Samarinda, Bontang, Berau City, West Kutai regency, East Kutai regency, Penajam Paser Utara, Pasir Malinau, Nunukan, Bulungan, and Tarakan. Determination the number of samples of 13 districts/cities were chosen refers to the availability of data. To Tana Tidung regency not included due to the unavailability of data in full accordance with the selected variables in this research model.

Type and Data Source

Type of data used in this research is secondary data in the form of time series of the 2001-2012 annual in each districts/city (as many as 13 districts/cities). The data will be analyzed comes from the Badan Pusat Statistik (BPS) and related to SKPD at district/city in East Kalimantan.

Some of the data required in this study will refer to variables created in the model are:

- (1) Nature Resource Revenue-Sharing (DBH-SDA) (in million Rp);
- (2) Data of local government capital expenditures realization in district/city (in million Rp);
- (3) Data of investment (proxied with using PMTB) in Rp;
- (4) Data of road infrastructure development (in Km);
- (5) Data of PDRB at constant price (ADHK) primary sector (in million Rp);
- (6) Data of PDRB at constant price (ADHK) secondary sector (in million Rp);
- (7) Data of PDRB at constant price (ADHK) tertiary sector (in million Rp);
- (8) Data of working population/labor absorption;
- (9) Data of ration gini index to proxied income imbalance.

DATA ANALYSIS

Based on the model presented, then there is a structural relationship between the variables that indicate the relationship path. Therefore in this study used the approach path analysis as a technique to analyze the structural relationships.

Development of the model in this study was to examine the relationship between exogenous and endogenous variables. Based on the relationship between variables, empirical studies and theory, it can be made schematic structural model that describes the relationship among the variables (exogenous and endogenous) as shown in Figure 2.

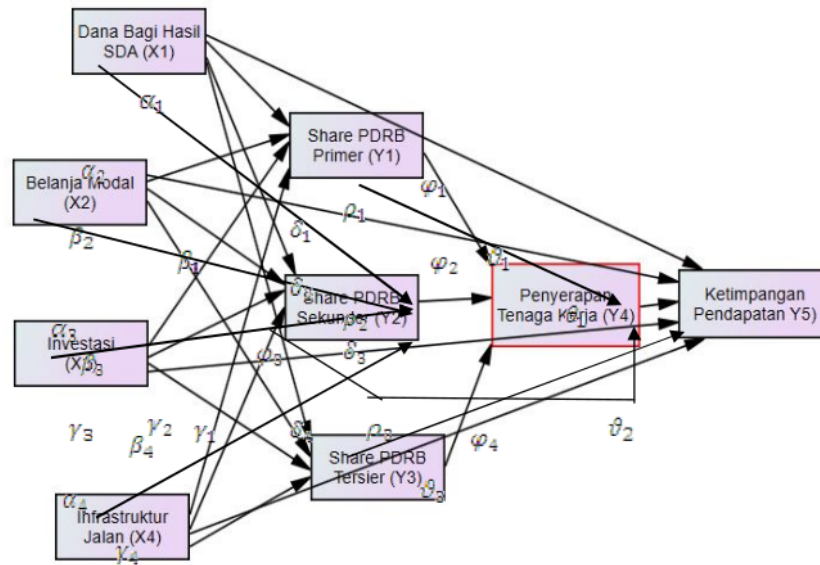


Figure 2. Path Schematic Structural Model

13 Based on the schematic model the structural relationship can be formed functional equation as follows:

$$\begin{aligned}
 Y_1 &= f(\alpha_1, X_2, X_3, X_4) \\
 Y_2 &= f(\beta_1, X_1, X_2, X_3, X_4) \\
 Y_3 &= f(\beta_2, X_1, X_2, X_3, X_4) \\
 Y_4 &= f(\beta_3, X_1, X_2, X_3, X_4) \\
 Y_4 &= f(\gamma_1, Y_1, Y_2, Y_3, X_1, X_2, X_3, X_4) \\
 Y_5 &= f(\varphi_1, Y_1, Y_2, Y_3, X_1, X_2, X_3, X_4)
 \end{aligned}$$

Where:

- X₁ = Nature Resource Revenue-Sharing (SDA)
- X₂ = Capital Expenditure Realization
- X₃ = Investment
- X₄ = Road Infrastructure
- Y₁ = PDRB primary share/agriculture, mining, oil and gas sectors
- Y₂ = PDRB secondary share/management industry
- Y₃ = PDRB tertiary share/service and commerce
- Y₄ = labor absorption
- Y₅ = income imbalance

Based on the functional model above and also the shape of the diagram it can be seen that the study was to estimate the effect of several independent variables (exogenous) to multiple dependent variables (endogenous) in a structured and simultaneously. Therefore the model can be written as follows:

$$Y1 = \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + e1 \tag{1.1}$$

$$Y2 = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e2 \tag{1.2}$$

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$$Y_3 = \gamma_1 X_1 + \gamma_2 X_2 + \gamma_3 X_3 + \gamma_4 X_4 + e_3 \quad (1.3)$$

$$Y_4 = \rho_1 Y_1 + \rho_2 Y_2 + \rho_3 Y_3 + \delta_1 X_1 + \delta_2 X_2 + \delta_3 X_3 + \delta_4 X_4 + e_4 \quad (1.4)$$

$$Y_5 = \theta_1 Y_4 + \theta_2 Y_1 + \theta_3 Y_2 + \theta_4 Y_3 + \varphi_1 X_1 + \varphi_2 X_2 + \varphi_3 X_3 + \varphi_4 X_4 + e_5 \quad (1.5)$$

If we use log linear model and then rearranging into the equation, it can be expressed as follows:

$$\ln Y_1 = \ln \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + \mu_1 \quad (1.6)$$

$$\ln Y_2 = \ln \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln Y_1 + \mu_2 \quad (2.1)$$

$$\ln Y_3 = \gamma_0 + \gamma_1 \ln X_1 + \gamma_2 \ln X_2 + \gamma_3 \ln X_3 + \gamma_4 \ln Y_1 + \gamma_5 \ln Y_2 + \mu_3 \quad (3.1)$$

$$\ln Y_4 = \ln \lambda_0 + \lambda_1 \ln X_1 + \lambda_2 \ln X_2 + \lambda_3 \ln X_3 + \lambda_4 \ln Y_1 + \lambda_5 \ln Y_2 + \lambda_6 \ln Y_3 + \mu_4 \quad (4.1)$$

$$\ln Y_5 = \ln \lambda_0 + \lambda_1 \ln X_4 + \lambda_2 \ln X_1 + \lambda_2 \ln X_3 + \lambda_4 \ln Y_1 + \lambda_5 \ln Y_2 + \lambda_6 \ln Y_3 + \mu_4 \quad (4.1)$$

RESULTS

These studies generally focus on research in the area of East Kalimantan province with district and city unit as an object. All districts and cities included in the analysis, with the exception of Tana Tidung. This study tested the hypothesis that decentralization will affect the development of economic structural changes, a marked change in performance share or proportion of Gross Domestic Product (PDRB) will ultimately affect economic performance (labor absorption and income imbalance). Researchers also hypothesized that changes in the economic structure was influenced by internal factors as the determinant region. Some of empirical literature used in this study put that capital expenditure, investment, and the road infrastructure becomes a determinant ²¹tor of decisive changes in the economic structure. While in the context of Indonesia, the implementation of fiscal decentralization and regional autonomy in Indonesia formally began in 2001 is considered to be a determinant of economic structural change through the called policy of distribu¹⁸n of funds for results based on natural resource revenue sharing.

Based o⁹ the results of the evaluation path structural model can be estimate the results obtained direct effect, the indirect effect, and the total effect. All coefficients are shown in this study is standardized coefficients while displaying the value of CR and its Probability Value.

(1) Direct Effect Estimation

The estimation direct effect results exogenous variables with endogenous variables in this path research analysis each can be seen on following tables:

Table 1. Result of Estimation Direct Effect Among the Variables Based on Path Structural Model

NO	Direct Effect		Parameter Estimation (standardized)		CR	P
	Exogenous Variables	Endogenous Variables	Symbol	Values		
1	Revenue-Sharing SDA (X1)	1. PDRB primary sector Sharing (Y1)	α_1	1,920	10.325	***
				0.341	0.770	0.441
		2. PDRB secondary sector Sharing (Y2)	β_1	0.310	1.580	0.114
				-0.283	-4.420	***
		3. PDRB tertiary sector Sharing (Y3)	γ_1	-0.009	-0.202	0.840
		δ_1				
		4. Labor Absorption (Y4)	φ_1			
		5. Income Imbalance (Y5)				
2	Capital Expenditure (X2)	1. PDRB primary sector Sharing (Y1)	α_2	0.271	2.168	0.030*
				-0.152	-0.508	*
		2. PDRB secondary sector Sharing (Y2)	β_2	0.173	1.310	0.612
				0.00002	0.008	0.190
		3. PDRB tertiary sector Sharing (Y3)	γ_2	0.063	-2.758	0.994
		δ_2			0.006*	
		4. Labor Absorption (Y4)	φ_2			*
		5. Income Imbalance (Y5)				
3	Investment (X3)	1. PDRB primary sector Sharing (Y1)	α_3	-0.220	-3.590	***
				1,605	10.856	***
		2. PDRB secondary sector Sharing (Y2)	β_3	0,463	7.083	***
				0.152	6.320	***
		3. PDRB tertiary sector	γ_3	0.036	1.989	0.047*
			δ_3			*

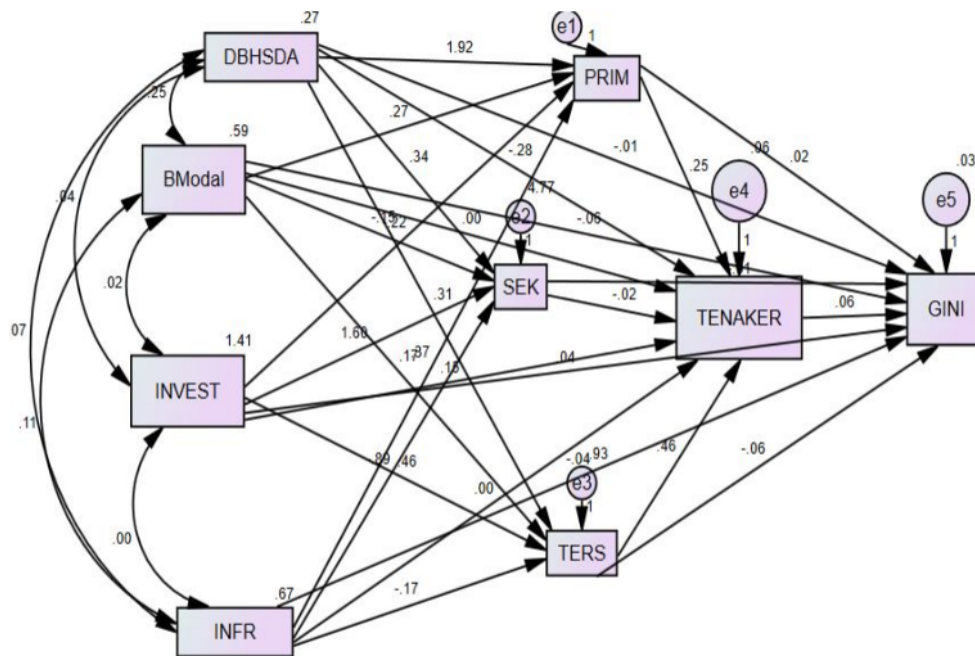
NO	Direct Effect		Parameter Estimation (standardized)		CR	P
	Exogenous Variables	Endogenous Variables	Symbol	Values		
		4. Sharing (Y3) Labor absorption (Y4)	φ_3			
		5. Income Imbalance (Y5)				
4	Road Infrastructure (X4)	1. PDRB primary sector Sharing (Y1)	α_4	0.370	4.060	***
				-0.892	10.856	***
		2. PDRB secondary sector Sharing (Y2)	β_4	-0.172	-1.783	0.075*
			γ_4	-0.002	-0.069	0.945
			δ_4	-0.036	2.008	0.045*
		3. PDRB tertiary sector Sharing (Y3)	δ_4			*
		4. Labor Absorption (Y4)	φ_4			
		5. Income Imbalance (Y5)				
5	PDRB primary sector Sharing (Y1)	1. Labor Absorption (Y4)	ρ_1	0.254	11.978	***
				0.015	0.771	0.441
		2. Income Imbalance (Y5)	ϑ_1			
6	PDRB secondary sector Sharing (Y2)	1. Labor Absorption (Y4)	ρ_2	-0.021	-2.397	0.017*
				-0.014	-2.366	*
		2. Income Imbalance (Y5)	ϑ_2			0.018*
						*
7	PDRB tertiary sector Sharing (Y3)	1. Labor Absorption (Y4)	ρ_2	0.457	22.750	***
				-0.063	-2.231	0.026*
		2. Income Imbalance (Y5)	ϑ_2			*

NO	Direct Effect		Parameter Estimation (standardized)		CR	P
	Exogenous Variables	Endogenous Variables	Symbol	Values		
8	Labor Absorption (Y4)	Income Imbalance (Y5)	β_1	0.058	6.320	***

Explanation: *) = significant at $\alpha = 10\%$
 **) = significant at $\alpha = 5\%$
 ***) = significant at $\alpha = 1\%$

If diagrammatically pictured, so the structural relationship as well as the standard coefficient from all variables (exogenous and endogenous) can be seen on Figure 3.

Figure 3. Path Structural Model Diagram (Unstandardized Coefficient)



Source: Output AMOS (see Appendix)

(2) Indirect Effect Estimation

Indirect effect affected indirectly by each exogenous variable, namely Nature Resource Revenue-Sharing (X1), Capital Expenditure (X2), Investment (X3) and Road Infrastructure (X4) towards each endogenous variables that are primary sector (Y1), secondary sector (Y2), tertiary sector (Y3), labor absorption (Y4), and income imbalance (Y5) as follows:

Table 2. The Results of Indirect Effect Parameter Estimation Exogenous and Endogenous Variable to Labor Absorption (Y4)

No	Affect Path (Indirect Effect)	Parameter Estimation Value		
		Y1	Y2	Y3
1	Revenue-Sharing SDA (X1) → Labor Absorption (Y4) through:	0,4876	-0.0071	0.1416
2	Capital Expenditure (X2) → Labor Absorption (Y4) through:	0,0688	0.0031	0.0790
3	Investment(X3) → Labor Absorption (Y4) through:	-0,0558	-0.0337	0.2115
4	Road Infrastructure (X4) → Labor Absorption (Y4) through:	0,0939	0.0187	-0.0786

Source: The result of the data

Table 3. The Results of Indirect Effect Parameter Estimation Exogenous and Endogenous Variable to Income Imbalance (Y5)

No	Affect Path (Indirect Effect)	Parameter Value (Through):			
		Y4	Y1 Y4	Y2 Y4	Y3 Y4
1	SDA Revenue-Sahring (X1) → Income Imbalance (Y5) through:	-0,016414	0,028285	- 0,00042	0.00822
2	Capital Expenditure (X2) → Income Imbalance (Y5) through:	0,000012	0,003992	0,00019	0.00459
3	Investment (X3) → Income Imbalance (Y5) through:	0,0088	-0,00324	- 0,00195	0,01227
4	Road Infrastructure (X4) → Income Imbalance (Y5) through:	-0.000116	0.005451	0.00109	-0.00456
5	PDRB primary sector sharing (Y1) → Income Imbalance (Y5) through:	0.01473			
6	PDRB secondary sector sharing (Y2) → Income Imbalance (Y5) through:	-0.00122			
7	PDRB tertiary sector sharing (Y3) → Income Imbalance (Y5) through:	0.026506			

Source: The Result of the data

While for the total effect from exogenous and endogenous variables each showed as follows:

Table 4. Total Effect Variable to Labor Absorption (Y4)

No	Affect Path (Total Effect)	Estimation Value (Through):		
		Y1	Y2	Y3
1	SDA Revenue-Sharing (X1) → Labor Absorption (Y4) through:	1.0020	0.053	0.2426
2	Capital Expenditure (X2) → Labor Absorption (Y4) through:	0.2100	-0.035	0.2007
3	Investment(X3) → Labor Absorption (Y4) through:	-0.2645	0.578	0.8345
4	Road Infrastructure (X4) → Labor Absorption (Y4) through:	0.3065	-0.2218	-0.2130

Source: Data Processed by the result of AMOS output

Table 5. Total Effect Variable to Income Imbalance (Y5)

No	Affect Path	Parameter Value (Through):			
		Y4	Y1 Y4	Y2 Y4	Y3 Y4
1	SDA Revenue-Sharing (X1) → Income Imbalance (Y5) through:	-0.225	2,232	0,653	0,622
2	Capital Expenditure (X2) → Income Imbalance (Y5) through:	0.058	0,583	0,160	0,485
3	Investment(X3) → Income Imbalance (Y5) through:	0.215	0,092	1,917	0,775
4	Road Infrastructure (X4) → Income Imbalance (Y5) through:	0.056	0,682	-0,580	0,140
5	PDRB primary sector sharing (Y1) → Income Imbalance (Y5) through:	0,312			
6	PDRB secondary sector sharing (Y2) → Income Imbalance (Y5) through:	0,515			
7	PDRB tertiary sector sharing (Y3) → Income Imbalance (Y5) through:	0,037			

Source: Data Processed by the result of AMOS output

CONCLUSION

- (1) There is an affected result that relate to the impact of determinants economic structure changes in East Kalimantan. In this research Nature Resource Revenue-Sharing, capital expenditure, and road infrastructure are positively and significant affected to economic structure changes on primary economic sector in East Kalimantan. While the investment negatively and significant to primary sector. On secondary economic sector, the impact of

- nature resource revenue-sharing is positive but not significant. There is an impact from capital expenditure is negative and significant. The investment and road infrastructure are positively and significant affected on secondary sector. On tertiary sector, the impact of revenue-sharing and capital expenditure are positive but not significant. While the investment is positively and significant affected and the road infrastructure have a negative and significant impact.
- (2) Against the labor absorption, Nature Resource Revenue-Sharing and Road Infrastructure directly turns negative effect and significant. As for investment is positive and significant. While capital expenditure does not have a significant affect to labor absorption although the direct of impact is positive as expected in hypothesis.
 - (3) Related to income imbalance effect, Nature Resource Revenue-Sharing has negative direct of impact as expected in hypothesis but not significant. Capital expenditure and investment both have positive and significant direct of impact, opposite to the hypothesis. While road infrastructure negatively and significant affecting.
 - (4) Nature Resource Revenue-Sharing, Capital Expenditure, and Road Infrastructure are positively impacted indirectly to labor absorption through the primary sector in East Kalimantan. Furthermore, the investment have a negative impact through the same path. For the same effect through the secondary sector, the revenue-sharing and investment both have a negative impact. While the positive impact given from capital expenditure and road infrastructure. Next for tertiary sector either the revenue-sharing, capital expenditure, and investment have a positive impact on labor absorption, excepted road infrastructure that give a negative impact.
 - (5) The Nature Resource Revenue-Sharing, road infrastructure, and secondary sector have an indirectly negative impact to income imbalance in East Kalimantan. Other variables namely capital expenditure, investment, primary sector and tertiary are positively impacted. Against the impact to income imbalance through primary sector path and labor absorption, so that the revenue-sharing, capital expenditure, and road infrastructure are have a positive impact, while the investment is negative. Next if through the secondary sector and labor absorption, the revenue-sharing and investment are negatively affected, while the capital expenditure and road infrastructure both have a positive impact. Finally the indirect effect through tertiary sector and labor absorption shows that the revenue-sharing, capital expenditure, and investment have a positive impact to income imbalance, while the road infrastructure is negative.

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