TYPOLOGY OF REGIONAL ECONOMIC DEVELOPMENT PATTERN

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Abstract: *Fiscal decentralization between the central government to local governments is measured by the transfer of the balance funds. The balancing fund consists of revenue-sharing that comes from taxes and natural resources, the general allocation fund, and special allocation funds. The development of Klassen Typology, include four members of the indicators in a set pattern of regional development (economic growth, fiscal decentralization, income inequality and inequality of education) produces five regional development pattern classification. With this development, regional development patterns derived typology that better describe the real condition of the welfare of the community. The result showed that no district or city in East Java that have the area developed and grew rapidly category. Based on the analysis of such data, the need for more attention to fiscal decentralization, income inequality and inequality of education to see the success of economic development, not just look at the economic growth.*

Keywords: *typology, fiscal decentralization, income inequality, education inequality*

I. INTRODUCTION

The success of economic development, can not just be seen from economic growth. The quality of human capital as one of the main elements of economic development. Typology of Regional Economic Development Pattern. Developing a Typology Klassen and increase the indicators consist of fiscal decentralization, income inequality and inequality of education in East Java Province.

Decentralization is a devolution of government power by government to autonomous regions to set up and administer governmental affairs in the Unitary State of the Republic of Indonesia (Article 1 (7) of Law No. 32 of 2004). Fiscal decentralization is fundamental of the system of regional autonomy in financial aspects. Where is the fiscal decentralization of financial transfers to the central government sub-national governments (Boex and Martinez-Vazquez, 2001).

Fiscal decentralization between the central government to local governments is measured by the transfer of the balance funds. The balancing fund consists of

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revenue-sharing that comes from taxes and natural resources, the general allocation fund, and special allocation funds.
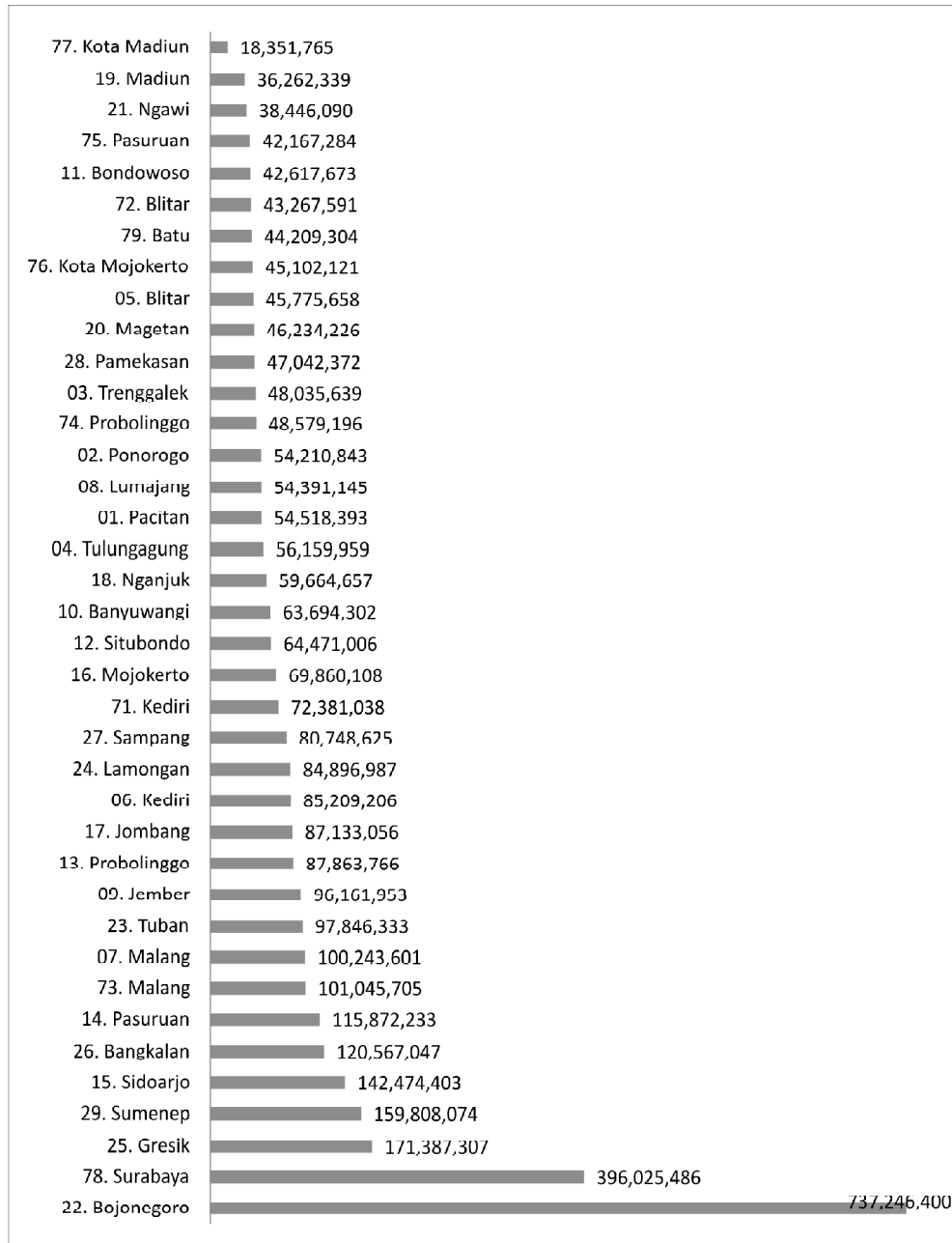

77. Kota Madiun	18,351,765
19. Madiun	36,262,339
21. Ngawi	38,446,090
75. Pasuruan	42,167,284
11. Bondowoso	42,617,673
72. Blitar	43,267,591
79. Batu	44,209,304
76. Kota Mojokerto	45,102,121
05. Blitar	45,775,658
20. Magetan	46,234,226
28. Pamekasan	47,042,372
03. Trenggalek	48,035,639
74. Probolinggo	48,579,196
02. Ponorogo	54,210,843
08. Lumajang	54,391,145
01. Pacitan	54,518,393
04. Tulungagung	56,159,959
18. Nganjuk	59,664,657
10. Banyuwangi	63,694,302
12. Situbondo	64,471,006
16. Mojokerto	69,860,108
71. Kediri	72,381,038
27. Sampang	80,748,625
24. Lamongan	84,896,987
06. Kediri	85,209,206
17. Jombang	87,133,056
13. Probolinggo	87,863,766
09. Jember	96,161,953
23. Tuban	97,846,333
07. Malang	100,243,601
73. Malang	101,045,705
14. Pasuruan	115,872,233
26. Bangkalan	120,567,047
15. Sidoarjo	142,474,403
29. Sumenep	159,808,074
25. Gresik	171,387,307
78. Surabaya	396,025,486
22. Bojonegoro	737,246,400

Figure 1: Revenue-Sharing in East Java Province in 2014

Source: East Java Central Bureau Statistics Process, 2015b

The provision of revenue-sharing aims to provide the authority for the area to enjoy the regional assets owned both from taxes and natural resources.
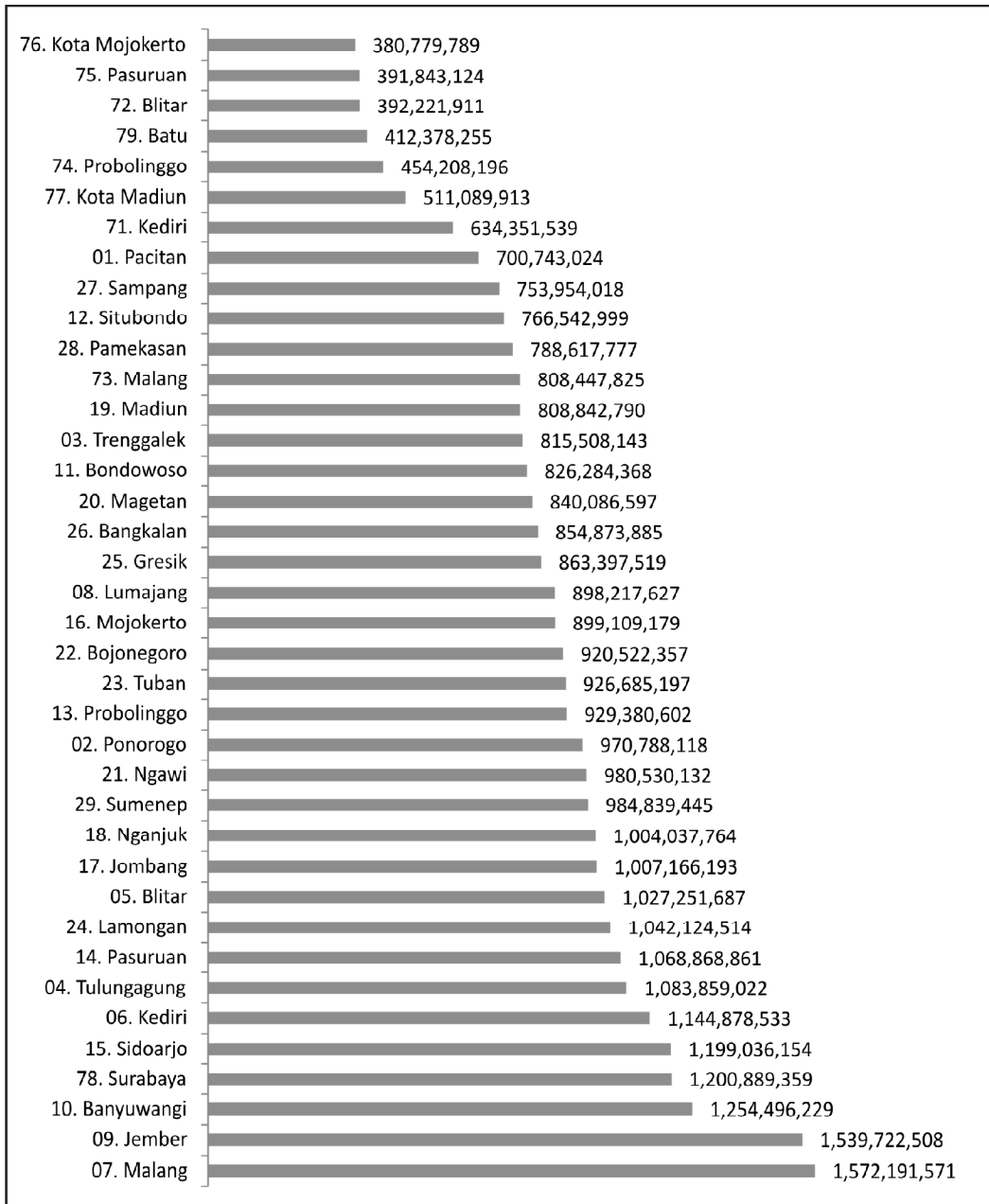
Region	Amount
76. Kota Mojokerto	380,779,789
75. Pasuruan	391,843,124
72. Blitar	392,221,911
79. Batu	412,378,255
74. Probolinggo	454,208,196
77. Kota Madiun	511,089,913
71. Kediri	634,351,539
01. Pacitan	700,743,024
27. Sampang	753,954,018
12. Situbondo	766,542,999
28. Pamekasan	788,617,777
73. Malang	808,447,825
19. Madiun	808,842,790
03. Trenggalek	815,508,143
11. Bondowoso	826,284,368
20. Magetan	840,086,597
26. Bangkalan	854,873,885
25. Gresik	863,397,519
08. Lumajang	898,217,627
16. Mojokerto	899,109,179
22. Bojonegoro	920,522,357
23. Tuban	926,685,197
13. Probolinggo	929,380,602
02. Ponorogo	970,788,118
21. Ngawi	980,530,132
29. Sumenep	984,839,445
18. Nganjuk	1,004,037,764
17. Jombang	1,007,166,193
05. Blitar	1,027,251,687
24. Lamongan	1,042,124,514
14. Pasuruan	1,068,868,861
04. Tulungagung	1,083,859,022
06. Kediri	1,144,878,533
15. Sidoarjo	1,199,036,154
78. Surabaya	1,200,889,359
10. Banyuwangi	1,254,496,229
09. Jember	1,539,722,508
07. Malang	1,572,191,571

Figure 2: The General Allocation Funds in East Java Province in 2014

Source: East Java Central Bureau Statistics Process, 2015b

Giving the general allocation fund aims to help finance inter-regional equalization ability to fund the needs of the region in the implementation of decentralization.
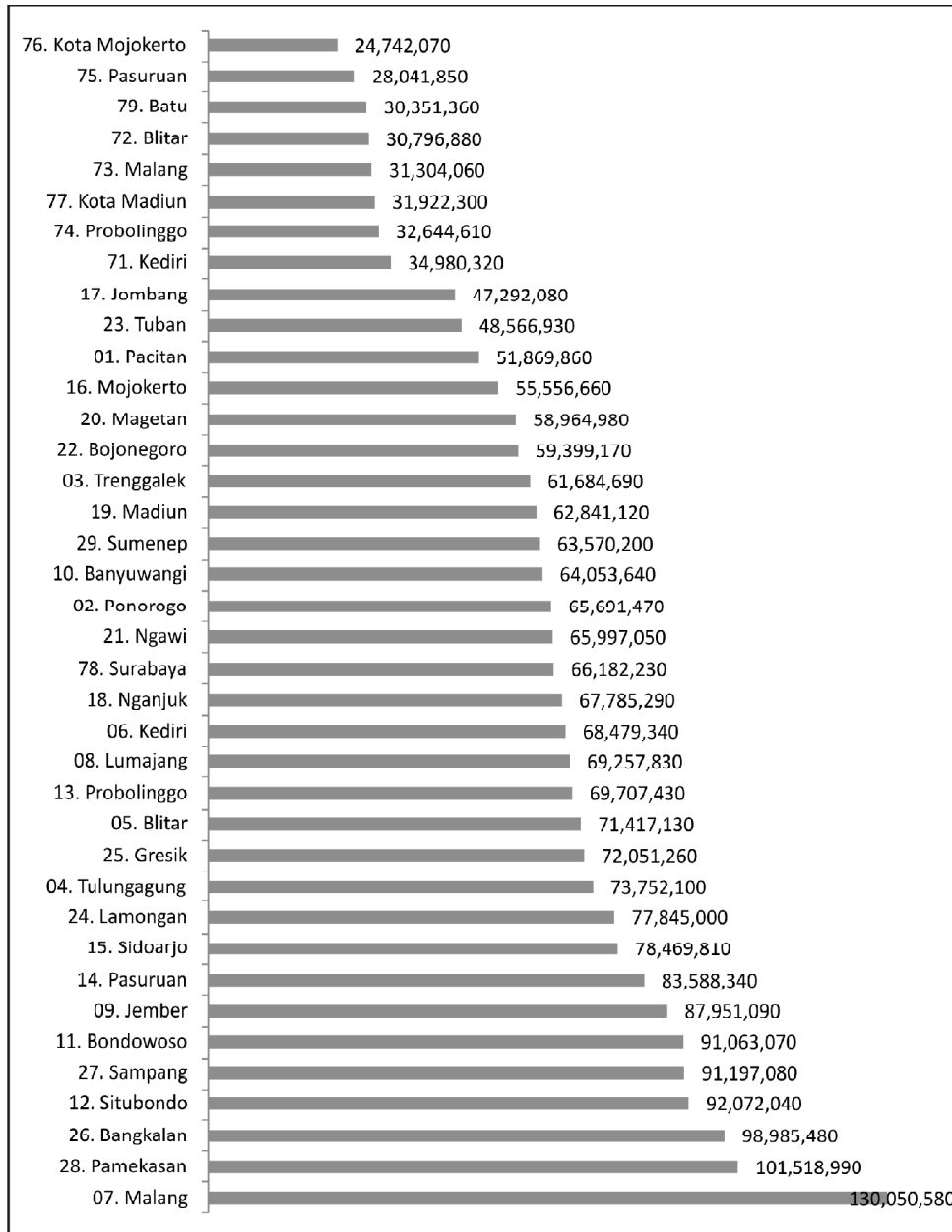

76. Kota Mojokerto	24,742,070
75. Pasuruan	28,041,850
79. Batu	30,351,360
72. Blitar	30,796,880
73. Malang	31,304,060
77. Kota Madiun	31,922,300
74. Probolinggo	32,644,610
71. Kediri	34,980,320
17. Jombang	47,292,080
23. Tuban	48,566,930
01. Pacitan	51,869,860
16. Mojokerto	55,556,660
20. Magetan	58,964,980
22. Bojonegoro	59,399,170
03. Trenggalek	61,684,690
19. Madiun	62,841,120
29. Sumenep	63,570,200
10. Banyuwangi	64,053,640
02. Ponorogo	65,691,470
21. Ngawi	65,997,050
78. Surabaya	66,182,230
18. Nganjuk	67,785,290
06. Kediri	68,479,340
08. Lumajang	69,257,830
13. Probolinggo	69,707,430
05. Blitar	71,417,130
25. Gresik	72,051,260
04. Tulungagung	73,752,100
24. Lamongan	77,845,000
15. Sidoarjo	78,469,810
14. Pasuruan	83,588,340
09. Jember	87,951,090
11. Bondowoso	91,063,070
27. Sampang	91,197,080
12. Situbondo	92,072,040
26. Bangkalan	98,985,480
28. Pamekasan	101,518,990
07. Malang	130,050,580

Figure 3: Special Allocation Funds in East Java Province in 2014

Source: East Java Central Bureau Statistics Process, 2015b

Special Allocation Fund aims to help fund special activities of regional affairs and in accordance with national priorities.
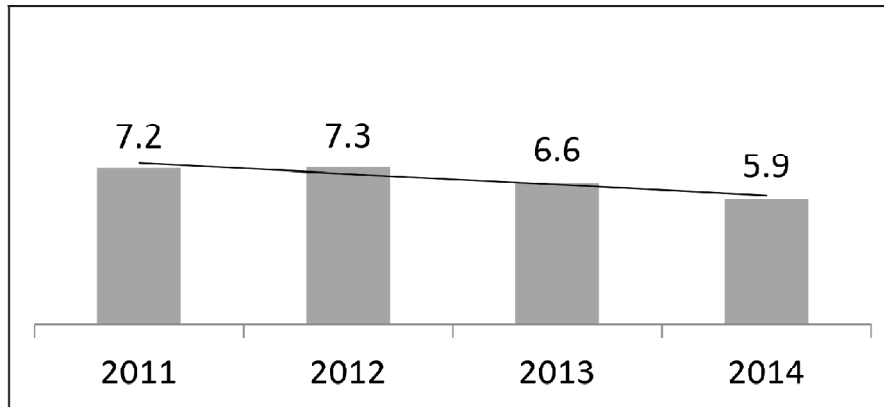
Figure 4 : Economic Growth in East Java Propinsi Jawa Timur in 2011-2014

Source: East Java Central Bureau Statistics Process, 2015a

The trend of economic growth in East Java Province in 2011-2014 showed a decline. Waluyo (2007) mentioning that the impact of fiscal decentralization in improving economic growth. Further supported by the Sasana (2009) mentioning that the effect of fiscal decentralization on economic growth is significant and positive.
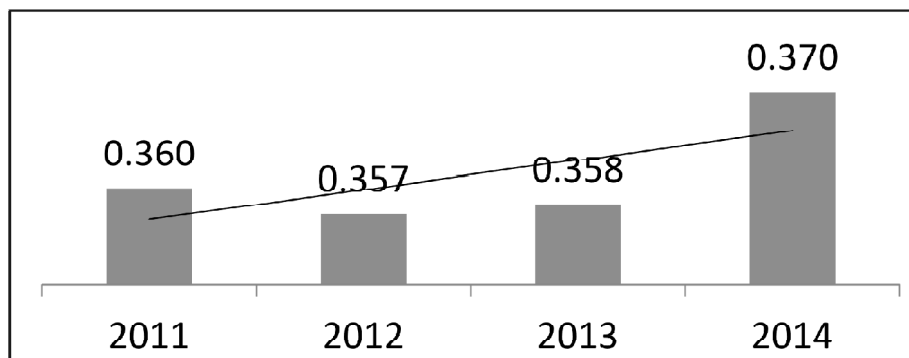
Figure 5: Income Gini Index in East Java Province in 2011-2014

Source: East Java Central Bureau Statistics Process, 2016

Income Gini Index Trend of East Java province in 2011-2014 show an increase. The role of fiscal decentralization is indirectly for income distribution and development among regions (Jun Ma, 1997). But according Khusaini (2006) fiscal decentralization has the potential to widen the gap between rich and poor regions.

From an economic perspective, Waluyo (2007) said that fiscal decentralization would reduce the impact of income inequality among regions if the optimal role of local governments.
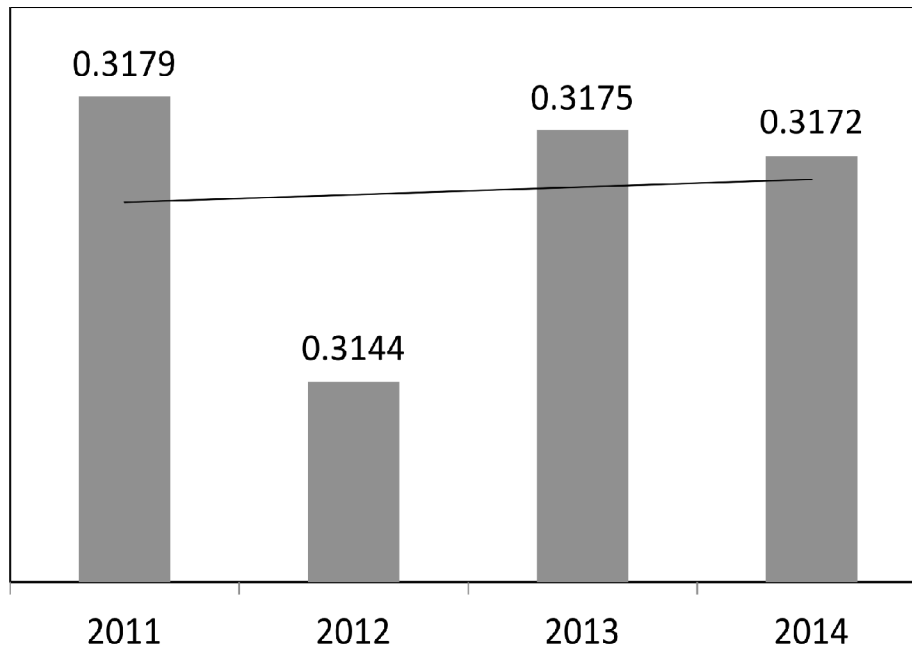
Figure 6 : Education Gini Index in East Java in 2011-2014

Source: East Java Central Bureau Statistics Process, 2015c

Education gini index trend in East Java Education in 2011-2014 increased. In terms of non-economic, fiscal decentralization should be able to improve the quality of local human resources (human capital).

II. LITERATURE REVIEW

(a) Klassen Typology

Customize the pattern of regional development through economic growth and regional income. The analysis using Mathematical analysis tools. There are two members of the indicators: 1.average economic growth rate of the region; 2. average economic growth rate of the GDP per capita. Both indicators have a relationship (relationship) is greater or smaller that compares the Region/City and the reference area (reference) (Sjafrizal, 2008).

Development Pattern Classification (Sjafrizal, 2008):

Quadrant I	Quadrant II
The area developed and grew rapidly (developed)	Advanced but depressed area (stagnant)
si > s dan ski > sk	si < s dan ski > sk
Quadrant III	Quadrant IV
Potential areas may still be developing or (developing)	The area is relatively lagging (underdeveloped)
si > s dan ski < sk	si< s dan ski < sk

Note:

si : average the economic growth rate of the region
s   : average the economic growth rate in the reference area
ski : average the economic growth rate of the GDP per capita
sk : average the economic growth rate of the GDP per capita in the reference area

Entering the four members of the indicators in a set pattern of regional development : 1. economic growth; 2. fiscal decentralization; 3. income inequality and 4. education inequality. Four indicators have a relationship (relationship) is greater or smaller that compares the Region/City and the reference area (reference).

(b) Pascal Triangel

Pascal's triangle, can be used to determine the possible values. According to the table and Pascal's triangle, it can be explained values chances of that happening. Diagram ratio presented Pascal is known as the "triangle pascal". The shape is as follows (Negoro and Harahap, 2013):

			1					empty set has the first subset
		1		1				2 subsets
		1	2	1				4 subsets
	1	3		3	1			8 subsets
	1	4	6	4	1			16 subsets
1	5	10		10	5	1		32 subsets
1	6	15	20	15	6	1		64 subsets

RESULT AND DISCUSSION

Unlike the Typology Klassen, in this study include four members of the indicators in a set pattern of regional development namely: economic growth, fiscal decentralization, income inequality and education inequality. The fourth member of the indicators have a relationship (relationship) is greater or smaller that compares the Region/City and the reference area (reference).

Possible values Regional Development Pattern of East Java Province:

				Economic Growth			
				gi>g		gi<g	
				Fiscal Decentralization		Fiscal Decentralization	
				di≥d	di<d	di≥d	di<d
Education Inequality	ginedi≥gined	Income Inequality	ginyi≥giny	III (gi≥g, di≥d, ginedi≥gined, ginyi>giny)	IV (gi≥g,di<d, ginedi≥gined, ginyi≥giny)	IV (gi<g,di≥d, ginedi≥gined, ginyi≥giny)	V (gi<g,di<d, ginedi≥gined, ginyi≥giny)
			ginyi<giny	II (gi≥g,di≥d, ginedi≥gined, ginyi<giny)	III (gi≥g,di<d, ginedi≥gined, ginyi<giny)	III (gi<g,di≥d, ginedi≥gined, ginyi<giny)	IV (gi<g,di<d, ginedi≥gined, ginyi<giny)
	ginedi<gined	Income Inequality	ginyi≥giny	II (gi≥g,di≥d, ginedi<gined, ginyi≥giny)	III (gi≥g,di<d, ginedi<gined, ginyi≥giny)	III (gi<g,di≥d, ginedi<gined, ginyi≥giny)	IV (gi<g,di<d, ginedi<gined, ginyi≥giny)
			ginyi<giny	I (gi≥g,di≥d, ginedi<gined, ginyi<giny)	II (gi≥g,di<d, ginedi<gined, ginyi<giny)	II (gi<g,di≥d, ginedi<gined, ginyi<giny)	III (gi<g, di<d ginedi<gined, ginyi<giny)

Note:

gi	=	average of the economic growth rate of the region
g	=	average of the economic growth rate in the reference area
di	=	average of the fiscal decentralization of the region
d	=	average of the fiscal decentralization in the reference area
ginedi	=	average of education equality of the region
gined	=	average of education equality in the reference area
ginyi	=	average of income equality of the region
giny	=	average of income inequality in the reference area

Pascal's triangle, can be used to determine the possible values. According to the table and Pascal's triangle, it can be explained possible values that occur on the pattern of regional development as follows:

Possible I	:	there is one possibility, four indicators have a relationship between the ratio of the Region/City compared Province in line with expectations..
Possible II	:	there are four possibilities, of the four indicators, there is one indicator that has the relationship between the ratio of the Region/City than the Province is not in line with expectations.
Possible III	:	there are six possible, of the four indicators, there are two indicators that have a relationship between the ratio of the Region/City than the Province is not in line with expectations.
Possible IV	:	there are four possibilities, of the four indicators there is only one indicator has a ratio relationship between the Region/City compared Province in line with expectations
Possible V	:	there is one possibility, four indicators have a relationship between the ratio of the Region/City than the Province is not in line with expectations

Note:

Each indicator has a different relationship between the ratio of the Region/City than the Province is in line with expectations or not. Which can be explained as follows: 1) average economic growth of the Region/City expected "greater" than the average provincial economic growth, if the "smaller" then it could be considered not as expected; 2) average fiscal decentralization Region/City expected "greater" than the average provincial fiscal decentralization, if the "smaller" then it could be considered not as expected; 3) average income inequality Region/City are expected to "smaller" than the average provincial income inequality, if the "greater" then it can be considered not as expected; 4) average inequality of education Region/City are expected to "smaller" than the average provincial education inequality, if the "greater" then it can be considered not as expected.

Based on possible values, there is five regional development pattern classification:

1) The area developed and grew rapidly (developed), based on the possible value of I;

2) Advanced but depressed area (stagnant), based on the possible value of II;

3) Potential areas may still be developing or (developing), based on the possible value of III;

Table 1
Average of economic growth, average of balancing fund, average of income inequality and average of education inequality of each Region/City in East Java in 2008 −2014

Region/City	Economic Growth	Balancing Fund	Education Inequality	Income Inequality	Possibility
01. Pacitan	5.97	629,532,944	0.303	0.27	III (gi≥g, di<d, ginedi<gined, ginyi≥giny)
02. Ponorogo	5.51	831,859,906	0.328	0.24	III (gi<g, di≥d, ginedi≥gined, ginyi<giny)
03. Trenggalek	5.82	706,497,474	0.269	0.26	IV (gi<g, di<d, ginedi<gined, ginyi≥giny)
04. Tulungagung	6.10	937,976,514	0.268	0.27	II (gi≥g, di≥d, ginedi<gined, ginyi≥giny)
05. Blitar	5.49	904,268,192	0.289	0.27	III (gi<g, di≥d, ginedi<gined, ginyi≥giny)
06. Kediri	5.60	1,003,515,980	0.288	0.24	II(gi<g, di≥d, ginedi<gined, ginyi<giny)
07. Malang	6.00	1,405,171,575	0.312	0.27	III(gi≥g, di≥d, ginedi≥gined, ginyi≥giny)
08. Lumajang	5.71	781,010,675	0.337	0.21	IV (gi<g, di<d, ginedi≥gined, ginyi<giny)
09. Jember	5.71	1,334,841,543	0.370	0.23	III (gi<g, di≥d, ginedi≥gined, ginyi<giny)
10. Banyuwangi	6.38	1,087,835,995	0.324	0.24	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
11. Bondowoso	5.57	708,557,922	0.380	0.22	IV (gi<g, di<d, ginedi≥gined, ginyi<giny)
12. Situbondo	5.52	674,360,489	0.400	0.24	IV (gi<g, di<d, ginedi≥gined, ginyi<giny)
13. Probolinggo	5.78	824,022,584	0.362	0.25	IV (gi<g, di≥d, ginedi≥gined, ginyi≥giny)
14. Pasuruan	6.42	978,893,577	0.313	0.24	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
15. Sidoarjo	6.10	1,099,537,090	0.212	0.25	II (gi≥g, di≥d, ginedi<gined, ginyi≥giny)
16. Mojokerto	6.37	790,577,168	0.272	0.23	II (gi≥g, di<d, ginedi<gined, ginyi<giny)
17. Jombang	5.81	871,115,400	0.276	0.25	III (gi<g, di≥d, ginedi<gined', ginyi≥giny)
18. Nganjuk	5.79	869,461,905	0.296	0.25	III (gi<g, dieHd, ginedi<gined, ginyieHginy)
19. Madiun	5.63	695,506,027	0.313	0.25	V (gi<g, di<d, ginedi≥gined, ginyi≥giny)
20. Magetan	5.54	717,325,633	0.291	0.26	IV (gi<g, di<d, ginedi<gined, ginyi≥giny)
21. Ngawi	6.03	836,341,172	0.345	0.24	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
22. Bojonegoro	7.28	1,174,819,017	0.333	0.24	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
23. Tuban	6.24	836,746,235	0.332	0.23	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
24. Lamongan	6.61	918,217,489	0.316	0.22	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
25. Gresik	7.25	847,089,137	0.257	0.28	II (gi≥g, di≥d, ginedi<gined, ginyi≥giny)
26. Bangkalan	3.51	802,119,271	0.436	0.25	V (gi<g, di<d, ginedi≥gined, ginyi≥giny)
27. Sampang	4.20	700,595,751	0.503	0.22	IV (gi<g, di<d, ginedi≥gined, ginyi<giny)

Region/City	Economic Growth	Balancing Fund	Education Inequality	Income Inequality	Possibility
28. Pamekasan	5.82	713,015,472	0.388	0.22	IV (gi<g, di<d, ginedi≥gined, ginyi<giny)
29. Sumenep	7.31	932,403,729	0.437	0.23	II (gi≥g, di≥d, ginedi≥gined, ginyi<giny)
71. Kediri	4.93	582,805,863	0.217	0.28	IV (gi<g, di<d, ginedi<gined, ginyi≥giny)
72. Blitar	6.30	348,981,223	0.230	0.30	III (gi≥g, di<d, ginedi<gined, ginyi≥giny)
73. Malang	6.10	724,858,101	0.225	0.32	III (gi≥g, di<d, ginedi<gined, ginyi≥giny)
74. Probolinggo	6.05	406,885,103	0.287	0.26	III (gi≥g, di<d, ginedi<gined, ginyi≥giny)
75. Pasuruan	5.85	347,317,761	0.260	0.27	IV (gi<g, di<d, ginedi<gined, ginyi≥giny)
76. Kota Mojokerto	5.79	348,251,670	0.217	0.27	IV (gi<g, di<d, ginedi<gined, ginyi≥giny)
77. Kota Madiun	6.74	422,802,983	0.203	0.28	III (gi≥g, di<d, ginedi<gined, ginyi≥giny)
78. Surabaya	6.81	1,386,251,620	0.218	0.31	II (gi≥g, di≥d, ginedi<gined, ginyi≥giny)
79. Batu	7.14	359,049,274	0.258	0.25	III (gi≥g, di<d, ginedi<gined, ginyi≥giny)
Rata-rata Jawa Timur	5.97	803,695,249.05	0.307	0.25	

Note:

gi	=	average of the economic growth rate of the region
g	=	average of the economic growth rate in the reference area
di	=	average of the fiscal decentralization of the region
d	=	average of the fiscal decentralization in the reference area
ginedi	=	average of education equality of the region
gined	=	average of education equality in the reference area
ginyi	=	average of income equality of the region
giny	=	average of income inequality in the reference area

4) The area is relatively lagging (underdeveloped), based on the possible value of IV;

5) Very underdeveloped area, based on the possible value of V.

After getting the classification pattern of regional development, subsequent analysis steps that describe the pattern of regional development of each Region/City in East Java.

Regional Development Pattern Classification per Region/City in East Java Province:

No.	Classification	Region / City
1.	The area developed and grew rapidly (developed)	-
2.	Advanced but depressed area (stagnant)	Tulungagung Region, Kediri Region, Banyuwangi Region, Pasuruan Region, Sidoarjo Region, Mojokerto Region, Ngawi Region, Bojonegoro Region, Tuban Region, Lamongan Region, Gresik Region, Sumenep Region, Surabaya City
3.	Potential areas may still be developing or (developing)	Pacitan Region, Ponorogo Region, Blitar Region, Malang Region, Jember Region, Jombang Region, Nganjuk Region, Blitar City, Malang City, Probolinggo City, Madiun City, Batu City
4.	The area is relatively lagging (underdeveloped)	Trenggalek Region, Lumajang Region, Bondowoso Region, Situbondo Region, Probolinggo Region, Magetan Region, Sampang Region, Pamekasan Region, Kediri City, Pasuruan City, Mojokerto Region
5.	Very underdeveloped area	Madiun Region, Bangkalan Region

CONCLUSION

The development of Klassen Typology, include four members of the indicators in a set pattern of regional development (economic growth, fiscal decentralization, income inequality and inequality of education) produces five regional development pattern classification. With this development, regional development patterns derived typology that better describe the real condition of the welfare of the community.

The result showed that no district or city in East Java that have the area developed and grew rapidly category. Based on the analysis of such data, the need for more attention to fiscal decentralization, income inequality and inequality of education to see the success of economic development, not just look at the economic growth.

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