



# Evaluation of Inclusive Economic Growth in East Java

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Using inclusive growth criteria and indicators, this study aims to evaluate the inclusiveness of economic growth in East Java by measuring Inclusiveness Growth Index (IGI). The results revealed that the acceleration of economic growth in East Java did not inclusive during the period of 2011 to 2014. There were only 13 out of 38 regions reaching the satisfactory level of IGI score, although the scores were not higher than the middle satisfactory level. Most of their economy was driven by the industrial or trade sector, whereas most of the rest were in district areas highly supported by agricultural, forestry and fisheries sectors except Pasuruan. Most of the agriculture, forestry and fisheries based economies in East Java still could not reach the satisfactory level of IGI.

**Keywords:** East Java, Economic Growth, Inclusive Growth Index (IGI).

## 1. INTRODUCTION

East Java, is one of the provinces in Indonesia that has a higher yet stable rate of economic growth compared to the national rate during the last five years. The average economic growth for East Java in period from 2010 to 2014 was 6.7%, meanwhile, the national economic growth was 6.18%.<sup>1</sup> In addition, East Java Gross Regional Domestic Product (GRDP) share towards the establishment of Indonesia's Gross Domestic Product (GDP) reached an average of 15% every year, the second highest contribution after Jakarta, the capital city of Indonesia, which has contributed an average of 17% in the last five years.

However, economic growth in East Java still has some fundamental economic issues such as poverty, unemployment and low quality of human resources. As of 2014, the number of poor people is defined by Indonesian Central Bureau of Statistics at 4,748.4 million or 12.30% of the population of East Java. While the unemployment rate in 2014 stood at 4.19% of the total labor force. Looking at the quality of human resources in East Java, especially the quality of health and education levels, the high economic growth rate was also not able to raise the level of quality human resources. The average number of infant deaths per 1,000 live births during 2011 to 2014 was 27.86, higher than the national average which was 23.50, or equal with Kyrgyzstan, the 67th highest infant mortality rate in the world, that was 26.80 (Central Intelligence Agency, 2016). Moreover, the average years of school in East Java during the period from 2011 to 2014 was 7.39, less than the national condition, i.e., 7.5 which was 115th in rank compared to 187 other countries.<sup>2</sup>

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Since the economic growth of East Java has outperformed national growth, the social conditions and quality of human resources in East Java should be more sustainable. Although the economic growth has provided benefits for some people, it is not significant enough to give the sense that the process of economic growth in East Java has solved the problems of imbalance (inequality) and social harmony. The process of economic growth should give benefit to the parties/groups that are able to participate. During the four years from 2011 to 2014 the Gini coefficient of East Java remained at the level of 0.36–0.37 (slightly below the national level that is 0.41). Regarding the aspect of accumulated income and expenditure, this means that the process of economic growth has a favorable tendency for certain groups without having any significant progress in the redistribution of income. Inclusive economic growth emphasizes on community participation in the development process. The involvement of the East Java community in the process of economic development therefore, would create a positive impact on inclusive growth.

Studies on measuring inclusive growth have been conducted by researchers. However, most of them were studying the national level of inclusive growth and there were none that studied the regional or even the district level.<sup>3–9</sup> Since the role of government in regional and district areas became more important especially after the decentralization of the political system in 1999,<sup>10–12</sup> studies on inclusive growth in regional areas is necessary in order to truly capture the condition of the districts/cities.

The concept of inclusiveness on growth and economic development was first introduced by the Asian Development Bank (ADB) together with a poverty eradication strategy in 1999 and 2004.<sup>13</sup> The inclusive economic growth process has been applied in many countries including Indonesia.<sup>14</sup> Inclusive

growth needs to provide the same quality of opportunities for people to participate and benefit in the growth process.<sup>15,16</sup> This concept also emphasizes that the economic opportunities created by the growth should be enjoyed by all citizens, especially those who are below the poverty line.

The concept of inclusive economic growth in various literature reviews is defined as, “growth that emphasizes equality of economic opportunities.”<sup>17</sup> In this corridor, justice and equality in economic opportunities become the core of inclusive economic growth. Furthermore, the creation of employment opportunities through rapid economic growth and sustainability will always be emphasized.

The concept of inclusive economic growth emerged as an effort to bridge gaps and repair (inequality) in various aspects of an economy. A public economic policy (inclusive growth) must be effectively directed to the creation of justice.<sup>18</sup> Government policies and market failures due to inequality of access should be evaluated for repair within the corridor in a responsible and transparent manner. Basic inclusive economic growth has three core pillars, namely maximizing economic opportunities, meeting minimum welfare requirements, and access to economic opportunity.

This study will be focused on building a composite index of some indicators, i.e., indicators within an economy including: economic growth, unemployment rate, infrastructure, education, health and social life (poverty and gender equality). According to the results of various studies, inclusive economic growth that was used to evaluate the direction of economic policy in many areas showed mixed results. First, high economic growth could create greater public participation, so that the social and health aspects would also increase. Second, high economic growth could only be enjoyed by a certain group of people within a society, which means that the growth process is not creating equal opportunities for all communities.

This research is intended to evaluate the inclusiveness of economic growth in 38 districts/cities in East Java. Given the objective of the study, this research raises the following question: how is the inclusiveness of economic growth in all districts/cities in East Java? A study that provides an evaluation of inclusive economic growth will directly benefit policy makers, particularly to the extent in which the effectiveness of a policy that has been taken is measured. In addition, for scholars and students, this study also will provide a contribution to the process of testing the application of theories that have proceeded.

## 2. EXPERIMENTAL DETAILS

In order to measure the inclusiveness of economic growth in East Java, this study utilized data of all regencies for the period of 2011 to 2014. The 38 regencies in East Java are shown as at Table I. The data source of the government expenditure of social protections were found from *Direktorat Jenderal Perimbangan Keuangan* (DJPK) online, meanwhile, the rest of the data were gathered from Indonesian Central Bureau of Statistics.

This study adopted ADB’s inclusiveness growth model introduced in 2010 for evaluating the inclusive economic growth in East Java.<sup>19</sup> Inclusive economic growth indexes accordingly are used in order to measure the sustainability of economic growth, income distribution, the depth of poverty and equal access to economic opportunities and social justice. By indexing, the level

Table I. The districts/cities in East Java.

No	Regencies	No	Regencies	No	Regencies
1	Pacitan	14	Pasuruan	27	Sampang
2	Ponorogo	15	Sidoarjo	28	Pamekasan
3	Trenggalek	16	Mojokerto	29	Sumenep
4	Tulungagung	17	Jombang	30	Kediri city
5	Blitar	18	Nganjuk	31	Blitar city
6	Kediri	19	Madiun	32	Malang city
7	Malang	20	Magetan	33	Probolinggo city
8	Lumajang	21	Ngawi	34	Pasuruan city
9	Jember	22	Bojonegoro	35	Mojokerto city
10	Banyuwangi	23	Tuban	36	Madiun city
11	Bondowoso	24	Lamongan	37	Surabaya city
12	Situbondo	25	Gresik	38	Batu city
13	Probolinggo	26	Bangkalan		

of inclusive growth in a region and its impact on specific sectors can be evaluated.

There are four steps in building the IGI model. First, identifying the dimensions and indicators. Assume the identification of evaluation dimension is  $U = \{u_1, u_2, \dots, u_j\}$ ; and clustering the evaluation area is  $U = \{u_{j1}, u_{j2}, \dots, u_{ji}\}$ . Evaluation index, therefore, is  $U = \{u_{i11}, u_{i21}, \dots, u_{jim}\}$ ,  $U = \{u_{j11}, u_{j21}, u_{j31} \dots u_{jim}\}$ , where  $j$  represents the dimension of evaluation;  $i$  is the area of evaluation and  $m$  is the indicator of evaluation. Second, setting the target weighting, that is making a proportion of each indicator in data collection which represents the important of data. Assuming the weighting is  $W$ , thus, the equation will be  $W = \{w_1, w_2, \dots, w_i\}$ . Third, conducting the univariate standardization. Quantitative evaluation is used to get a member from every indicator. Therefore, the matrix will be  $U_R = [r_{111}, r_{112}, \dots, r_{11m}]'$ . Fourth, summing of all weighting results in order to obtain the inclusive growth index (IGI).

$$IGI = \sum_{i=1}^m \left( \sum_{j=1}^n U_R \times w_j \right) \times W_i \quad (1)$$

where:  $U_R$  = standardized single index score,  $W_j$  = weight of single indicator at the period,  $W_i$  = weight of dimension.

The maximal score of IGI is 100. Overall, if the IGI score is less than 30, the inclusive growth will be regarded as unsatisfactory progress. If the IGI score is between 40 to 70, the inclusive growth will have satisfactory progress, and a score of 80 to 100 is superior progress. This means that the higher the score, the more inclusive the economic growth.

There are four dimensions in measuring IGI, i.e., job creation in order to create the sustainable development, poverty and income, equality, and social protection.<sup>20,21</sup> Sustainable development means, “the development meets the need of the present without compromising the ability of future generations to meet their own needs.”<sup>22</sup> Therefore, sustainable growth is also an important variable in measuring the inclusive growth. This is because the more sustainable the growth, the more the probability to increase the social welfare because everybody will be able to get a job. Inclusive growth also makes sure that there is income equality and a relatively low number of poor people. It means that any pro poor programmes conducted by the government must be followed by a lower level of inequality.<sup>23</sup>

Table II explains the indicators and weighted indexes of measuring the IGIs in East Java, Indonesia. Since the sustainability of economy, the income distribution, and the equity in economic opportunities are necessary in measuring the inclusive growth,

**Table II. Weighted indexes and elected indicators.**

Dimensions	Weighted	Area indexes	Weighted	Indicators	Weighted
Job creation in order to create the sustainable development	0.30	Economic growth	0.15	Growth of gross domestic regional product (GDRP)	0.100
			0.15	Industrial proportion from total GDRP	0.050
		Job Creation	0.15	Percentage of workers in secondary and tertiary jobs from total workers	0.100
				Unemployment rate	0.050
Poverty and income distribution	0.30	Income inequality Poverty alleviation	0.20	GINI coefficient	0.200
			0.10	Percentage of poor people according to the Indonesian central bureau of statistics	0.100
Equality in accessing economic opportunities	0.30	Health	0.15	Birth mortality rate	0.075
				Life expectancy rate	0.075
		Education	0.15	The average length of school	0.150
Social protection	0.10	Social securities	0.10	Percentage of government expenditure rate of social protection to GDRP	0.100
Total	1.00	Total	1.00		1.000

the weight set of these three dimensions are equal, i.e., 30%. Furthermore, the weight set for the social protection is 10% because this variable is additional information for IGIs in order to make sure that the government has social protection interventions for the chronically poor.<sup>24</sup>

There are two kinds of IGI indicators, i.e., positive and reverse indicators. In order to measure the positive indicators such as Growth of Gross Domestic Regional Product (GDRP), industrial proportion from total GDRP, percentage of workers in secondary and tertiary jobs from total workers, life expectancy rate, the average length of schooling, and the government expenditure rate of social protection to GDRP, the formula used is as follows:

$$V_{y,j} = \frac{X_{y,j}}{Z_{y,j}} \times 100 \quad (2)$$

where,  $V_{y,j}$  is the score of  $j$  index in  $y$  year,  $X_{y,j}$  is the actual value of the  $j$  index, and  $Z_{y,j}$  is the target value. Meanwhile, the formula for measuring the reverse indicators such as unemployment rate, GINI coefficient, percentage of poor people according

to the Indonesian Central Bureau of Statistics, and birth mortality rate is as follows:

$$V_{y,j} = \frac{A_{y,j} - X_{y,j}}{A_{y,j} - Z_{y,j}} \times 100 \quad (3)$$

where  $A_{y,j}$  is the best condition of  $j$  index in  $y$  year. The scope of each indicator and target score setting is described in Table III.

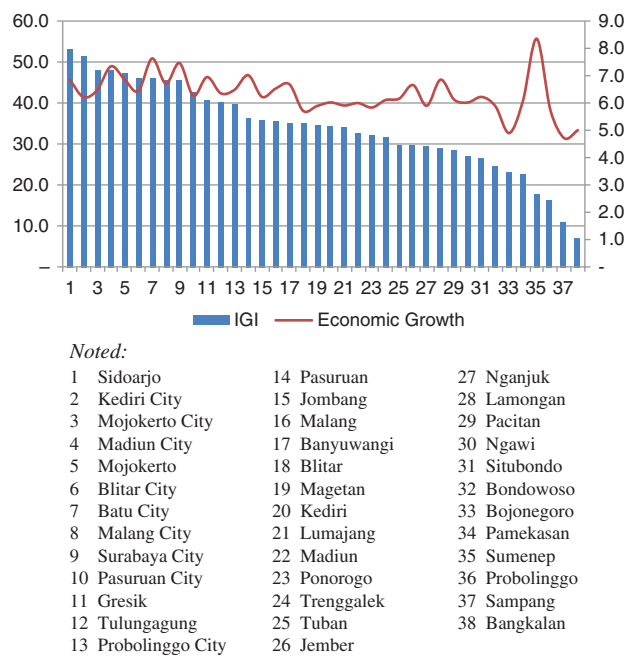
### 3. RESULTS AND DISCUSSION

#### 3.1. Regions with Satisfactory Progress of Inclusive Economic Growth

The tremendous economic growth of more than half of total districts/cities in East Java from 2011 to 2014 did not represent the inclusiveness of economic growth itself. During that period 50.0% of the 38 regions in East Java reached higher than average economic growth rate compared to the national growth. Those regions were Sumenep, Batu City, Surabaya City, Madiun City, Pasuruan, Sidoarjo, Mojokerto, Gresik, Lamongan, Banyuwangi, Probolinggo City, Blitar City, Malang City, Malang, Jember,

**Table III. The target value and the maximum condition for reverse index for each indicators.**

Indicators	Units	Target value	The maximum condition for reverse index
Growth of GDRP	%	12.0	Double of the average of the world economic growth (World bank, 2015)
Industrial proportion from total GDRP	%	35.0	Average share of industrial sector in the developing countries (World Bank, 2015)
Percentage of workers in secondary and tertiary job from total workers	%	75.0	Average percentage of workers in secondary and tertiary job from total workers in the world (world bank, 2015)
Unemployment rate	%	0	Zero unemployment rate means no unemployment at all
GINI coefficient	–	0	Zero Gini coefficient means the economy is equal
Percentage of poor people (BPS)	%	0	No poor people
Birth mortality rate	%	0	No child mortality
Life expectancy rate	Year	83.5	Life expectancy rate in the world (world bank, 2015)
The average length of school	Year	12.0	The length of basic education in Indonesia, i.e., elementary until senior high school
Government expenditure rate of social protection	%	10.0	The average lower limit of government expenditure rate of social protection in the world <sup>20</sup>



**Fig. 1.** The average of inclusive growth index (IGI) and economic growth from 2011 to 2014.

Tulungagung, Mojokerto City, Pasuruan City, and Tuban respectively. However, there were only 34.2% of all districts/cities that had IGI around 40.0 to 53.2 which was somewhat below the middle range of the satisfactory range (i.e., 40.0 to 70.0). Those were Sidoarjo, Kediri City, Mojokerto City, Madiun City, Mojokerto, Blitar City, Batu City, Malang City, Surabaya City, Pasuruan City, Gresik, Tulungagung, and Probolinggo City respectively.

Figure 1 shows that the economies of most areas that had satisfactory inclusive growth were driven by the industrial or trade sector. Sidoarjo as a district reached the highest IGI score with a contribution from its industrial sector around 48% during 2011 to 2014. Therefore, the percentage of workers in the secondary and tertiary jobs was also quite high, i.e., around 93.21%. Sidoarjo also succeeded to provide equality in access to education and health opportunities indicated from the gradual increasing of their average length of school, that was from 9.84 years in 2011 to 10.23 years in 2014, and the birth mortality rate was around 23.26, that was lower than the benchmark. In addition, the economic growth in Sidoarjo gave benefit to all its people equally as shown by their Gini coefficient and poverty rate that was lower than the upper limit of high inequality and the poverty rate.

Mojokerto City was the third highest on IGI score in East Java in the period from 2011 to 2014 after Sidoarjo and Kediri City. Although its score was lower than that of Kediri City, the IGI score of Mojokerto City did not reflect any material problems on its IGI indicators. This town was a commerce city since this sector contributed around 29% on its gross domestic regional product. Beside being a commerce city, Mojokerto GDRB also had a sufficient economic contribution from various sectors such as: information and communication, as well as manufacturing and construction. Since the source of economy was not concentrated on one sector, Mojokerto city succeeded to reduce its unemployment rate dramatically from 10.59% in 2011 to 4.42% in 2014. In addition, the government also provided equal opportunities for

their residences to access health and education facilities. Therefore, any indicators of equality in accessing the economic opportunities were better than the worst condition.

Some regions could reach their inclusive economic growth but they still faced the problem of economic inequality and poverty, such as Kediri City, Madiun City, Mojokerto, Blitar City, Malang City, Surabaya City, and Gresik. Kediri City had a very high industrial proportion of economic activity, especially from the Gudang Garam corporate, one of the biggest cigarette factories in Indonesia, i.e., 81.60%, thus, this sector could absorb the labor considerably. However, the remarkable economic growth from the industrial sector in Kediri City did not provide much employment. It can be understood from the high level of unemployment in Kediri City (i.e., 8.5% during 2011 to 2014). If Kediri City only depends on Gudang Garam Corporation as a major source of employment, the unemployment rate will remain high. Therefore, the government is encouraging the trade and services sector as an alternative and supporting sector that can absorb more labor in Kediri City.

Gresik as an industrial district succeeded in reaching a satisfactory score of its IGI in 2011 to 2014. The highest contribution of Gresik IGI score was from the industrial, health and educational aspects. Gresik became an investment district because the government supported both the domestic and foreign investment through the easiness of investment license. In addition, Gresik also developed the Port of Gresik as an economic zone to invite investors and boost the East Java exports. Despite of the fast growth of the economy and development in Gresik, the number of poor people was still high, i.e., around 14.21%. Therefore, the determinants of poverty in Gresik must be identified carefully, so that any programmes to eradicate the poverty will be effective.

Madiun City, Malang City, Blitar City, and Surabaya City had a similar problem in their inclusive economic growth, i.e unemployment rate and inequality. The economy of these areas was mostly supported by the trade and industrial sector respectively. In addition, most of their labor also worked in the secondary and tertiary sector. However, there was still a high amount of unemployment and a wide gap between the rich and the poor, meaning that the economic growth was still not promoting equal opportunity for all citizens to enjoy economic well-being. Therefore, in order to increase the IGI score, those regions must reduce their rates of unemployment and inequality. As for the other indicators such as health and education, they were already great.

Mojokerto had a satisfactory IGI score but still faced a problem with poverty level. The percentage of poor people was fluctuating between 2011 to 2014 around 10.88. Mojokerto is an industrial district with the contribution of manufacturing sector which was around 52% to total GDRP. Moreover, share of agriculture, forestry, and fisheries; construction, trade and service was around 10% equally. Since the number of poor people was quite high, the government must identify the root problem of poverty, then they can formulate an appropriate policy to reduce it.

### 3.2. Regions with Unsatisfactory Progress of Inclusive Economic Growth

There were 25 regions in East Java during the period between 2011 to 2014 that had unsatisfactory progress in their inclusive economic growth. Those regions were Pasuruan, Jombang, Malang, Banyuwangi, Blitar, Magetan, Kediri, Lumajang, Madiun, Ponorogo, Trenggalek, Tuban, Jember, Nganjuk, Lamongan, Pacitan, Ngawi, Situbondo, Bondowoso, Bojonegoro,



Table IV. The IGI score of East Java province in 2011 to 2014.

Indicators	Weighted	Index (100)				Weighted index			
		2011	2012	2013	2014	2011	2012	2013	2014
Growth of GDRP	0.10	60.17	60.58	52.48	50.67	6.02	6.06	5.25	5.07
Industrial proportion from total GDRP	0.05	83.28	82.83	82.70	83.03	4.16	4.14	4.13	4.15
Percentage of workers in secondary and tertiary job from total workers	0.10	79.72	79.61	81.90	86.12	7.97	7.96	8.19	8.61
Unemployment rate	0.05	11.15	31.91	28.34	30.23	0.56	1.60	1.42	1.51
GINI coefficient	0.20	(2.86)	(2.08)	(2.39)	(5.71)	(0.57)	(0.42)	(0.48)	(1.14)
Percentage of poor people according to the Indonesian central bureau of statistics	0.10	(29.34)	(21.88)	(19.42)	(15.15)	(2.93)	(2.19)	(1.94)	(1.52)
Birth mortality rate	0.08	7.76	10.69	14.10	15.90	0.58	0.80	1.06	1.19
Life expectancy rate	0.08	83.35	83.60	83.94	84.06	6.25	6.27	6.30	6.30
The average length of school	0.15	60.30	61.20	62.12	62.75	9.05	9.18	9.32	9.41
Percentage of government expenditure rate of social protection to GDRP	0.10	17.84	8.44	9.24	8.76	1.78	0.84	0.92	0.88
Total	1.00					32.87	34.25	34.17	34.47

Pamekasan, Sumenep, Probolinggo, Sampang, and Bangkalan respectively.

Most of the regions in East Java Province were still not reaching their inclusive economic growth, i.e., 65.7%. Overall, the characteristics of their economy highly supported by agricultural, forestry and fisheries sectors except Pasuruan. More than half of Pasuruan's economy was from the industrial sector, however, its economic growth was still not inclusive. From IGI indicators, Pasuruan had a very bad birth mortality rate and percentage of poor people. Although its birth mortality rate was declining from 51.62% in 2011 to 48.61% in 2014, this rate was still very high and above the average birth mortality rate in the world in 2015 as the maximum condition for reverse index.

Interestingly, Sumenep, the district that had the highest average economic growth during 2011 to 2014, had a very low IGI score, i.e., 17.8, the 4th lowest IGI score in East Java after Bangkalan, Sampang and Probolinggo. The main contributor to the negative score in its IGI was the poverty rate. Although the number of poor people in this area appeared to be decreasing gradually from 23.08% in 2011 to 20.51% in 2014, this amount was too high compared to the benchmark i.e., 10.68%. In addition, its birth mortality rate also became a core problem because it was not significantly reduced, i.e., from 48.47% in 2011 to 46.77% in 2014.

Most of regions with unsatisfactory progress of inclusive economic growth in East Java during the period between 2011 to 2014 were in the district area. The main reason might be that the districts have larger territories and more residents compared to the city. Moreover, many denizens live in mountain or coastal areas with the limitation of infrastructure, thus their education and health quality is low. Therefore, the disparities between poor and the rich people are quite large.

### 3.3. The Inclusiveness of Economic Growth in East Java Province

Overall, the IGI score of East Java was still unsatisfactory during the period of 2011 to 2014 as shown in Table IV. However, the IGI score increased gradually during the period. According to the IGI score, it can be understood that East Java must reduce the gap between the rich and the poor. The Gini coefficient in East Java was high, i.e., around 0.36 (more than the upper limit of high inequality). The number of poor people was also high, i.e., around 12.97% (more than the average percentage of poor people in the world in 2015). The economic growth in East Java also did not generate much employment. Moreover, the quality

of health in East Java must be improved since the birth mortality rate was significantly high, i.e., around 27.86% (near with the average birth mortality rate for the world in 2015).

## 4. CONCLUSIONS

The acceleration of economic growth in East Java did not inclusive during the period of 2011 to 2014. Some major reasons were the high level of economic inequality and the large number of poor people. There were only 13 out 38 regions reaching the satisfactory level of IGI score, although the scores were not higher than the middle satisfactory level. Most of their economy was driven by the industrial or trade sector, whereas most of the rest were in district areas highly supported by agricultural, forestry and fisheries sectors except Pasuruan. The big problem faced by the regions that had not yet attained inclusive economic growth was poverty. Most of the agriculture, forestry and fisheries based economies in East Java still could not reach the satisfactory level of IGI. Poor people in East Java usually are concentrated in rural or isolated areas with lack of public infrastructure such as roads, bridges, public transportation, electricity, clean water, internet, as well as financial institutions. The jobs of the people in these areas are traditional farming, forest work, or fishing. Hence, in order to attain inclusive economic growth, these regions must make poverty eradication part of their main agenda.

This study has some limitations. First, this study only intends to measure the IGI score of all 38 districts/cities in East Java in period between 2011 to 2014 and does not analyze the determinants of the IGI score. Therefore, it seems to be difficult to justify the reason for low IGI scores in all regions. Second, the target value and the maximum conditions for the reverse index are different with the study of McKinley and Min and Xiaolin, hence, sometimes the results will be dissimilar if we adjust those values. Therefore, future research should accommodate the analysis of factors influencing the inclusiveness of economic growth in order to investigate the reasons for the IGI scores.

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