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Determinant of Macro-Economics: Does Income Inequality Influence Happiness? Evidence From Indonesia

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Abstract

This research aims to see does income inequality determines the happiness of Indonesian. This is important because there is a unique condition where Indonesia to be one of the developing nations which have a complexity of the income inequality issue, but it still has a high happiness index rate. This research uses cross-sectional data consisting of multiple indicators of all the variables from 34 provinces of Indonesia such as inflation, unemployment, and government investment as the macroeconomic factors, which have a direct impact on income inequality as well as happiness index, and this research uses path analysis model.The result delineates that although macro economics variables and income inequality have negative correlation toward happiness of Indonesian, it it not fully effected on it because most happiness of Indonesians are coming from another aspect such as socio-culture and religiosity.

Key words : Macro-Economic Factors, Income Inequality, Happiness Index, Indonesia

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INTRODUCTION

Indonesia is one of the Asian-developing countries which has a great number of population. As a developing country, Indonesia experiencing such an inequality income. This is happened due to inequality in economic development which only focused on some cities or event islands such as java. This is in line though the Indonesia Central Bureau of Statistics which revealed that the rate of income inequality in Indonesia was experiencing a tremendous decline over the years (2015-2019), but climb up slightly at the end of the year both in city and rural area, as bellow:

Source: Indonesia Central Bureau of Statistics, 2020

Figure 1. Indonesia Income Inequality Rate

Besides Indonesia experiences income inequality, it also has a lower income compared to other Asian countries such as Japan, Korea, China, and so ford. Surprisingly, although Indonesia has a lower income, the rate of happiness in Indonesia is higher rather than Japan, Korea, and China as the figure below:
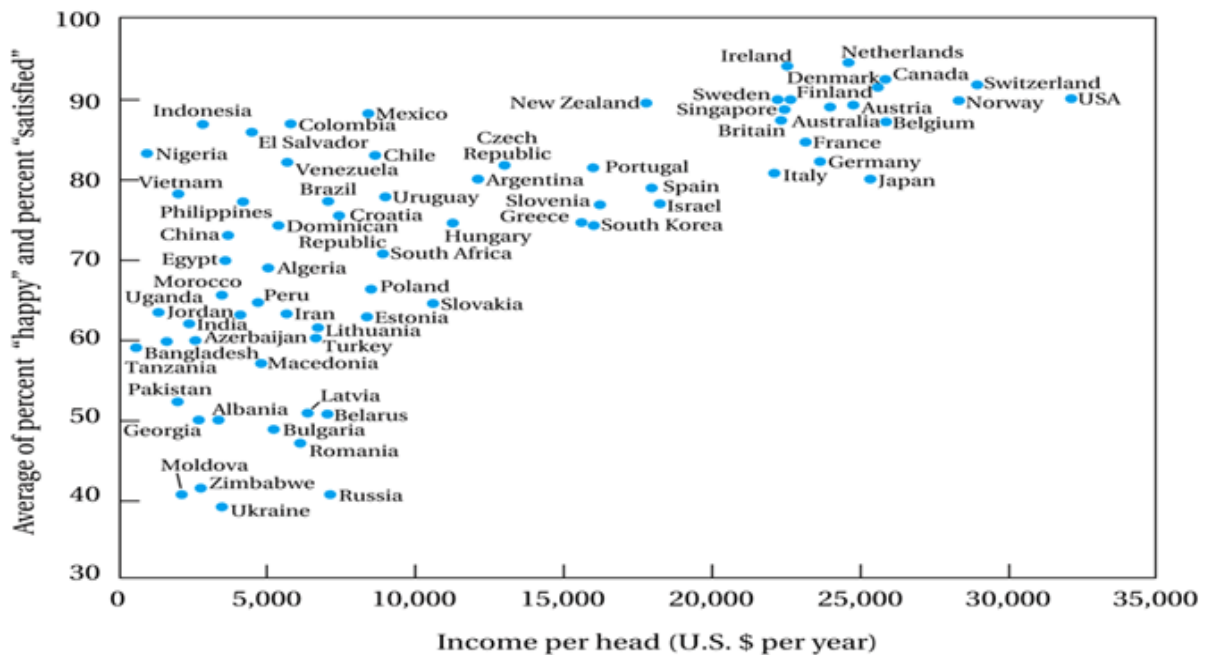
Source: Happines: lessons from a new science by Richard Layard

Figure 2. Income Per Head in Every Country

This is such an interesting condition because Indonesia as a developing county which has numerous complexities of economic problems include lower-income as well as income inequality, but still rising in the term of happiness rate. Taking Yogyakarta as one of the provinces in Indonesia as an example, the domestic newspaper revealed that Yogyakarta is the highest province in Indonesia with income inequality, reaching 0,423 percent which is higher than the national rate that is 0.380. Surprisingly, although it becomes the highest income inequality, it also has the highest rate of happiness (Candra, 2017). This is happened due

to the power of culture and religiosity which affect society far away from hedonism.

This is conversely with Japan and Korea those two countries are two of ASEAN developed-countries which have a middle-up level of individual income based on the figure. Nonetheless, although they have such prosperity in the term of income, they lack of happiness (Layadr, 2005) 2005). In Korea, why most Korean specifically in a hustle-bustle city are lack of happiness? This is happened because of social stratification drives up. The research of Woo Chang Kang et all reported that income inequality brings a negative impact on subjective well-being specifically for whose family income is lower than the median due to the envy effect (Kang, Lee, & Song, 2020).

Another research that exposed the negative correlation regarding to income inequality toward happiness is Delhey & Dragolov, who reported a negative correlation between income inequality and happiness happens due to the poor and the political left. That is to say, this is triggered such a tendency that income inequality affects such welfare which is related on happiness of human beings. Further, this condition able to obstruct the economics' wheel, which only the richer who can drive and mobile in the world of economic activity, not only that but politic as well (Delhey & Dragolov, 2014). However, some scholars revealed there is a positive association between inequality and individual well-being. Evidence from China which reported that income inequality increases such happiness, evidence from China through its effects on rural residents, who are optimistic about their life (Haller & Hadler, 2006; Helliwel & Huang; ect, Zagorsk, & Piotrowska, 2014).

Based on the information, this research aims to analyze more deeply regarding to income inequality and happy relationship in Indonesia, especially the reason behind why Indonesia experience high rate of happiness while has lower-income or even exist such income inequality? However, before assessing the relationship between income inequality and happiness, this research would measure the effect of macro-economic variables such as unemployment, inflation, and government investment toward income inequality in advance. Following to that, this research also would like to know, the impact of income inequality on happiness rate in every part of Indonesia such as West, Middle, and East of Indonesia. This is because every part of Indonesia experiencing inequality of economic development.

METHOD

Regarding to overcome this issue, this research is composed based on descriptive quantitative approach. This research uses panel data from 34 provinces of Indonesia 2017-2019. Further, measuring income inequality in Indonesia is proxied by GINI index ratio, which depicts the income distribution in each province of Indonesia. Meanwhile, the authors also picked Happiness index in every province of Indonesia. Those data are picked from Indonesia Central Bureau of Statistics, and this includes Unemployment data. Meanwhile, other variables are picked from Indonesia Central Bank such as inflation, and Government Investment data from Indonesia Investment Coordinating Board as the main data of the research in order to assess the relationship between one and another variable.

The methodology picked in order to assess the relationship between income inequality and happiness is a path analysis by IMB SPSS Statistic 22. This is because, this research added various number factor which significantly impacts income inequality such as

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unemployment, inflation, and government investment, as the cross-sectional data.

The position of macro-economic variables (X) in this research as the independent variables, while income inequality to be an intervening variable (Y), and the happiness index as the dependent variable (Z).

$GINIit$ $= \alpha i + \beta_1 \ UNEMPit + \beta_2 \ INFit + \beta_3$
$lnGIit ....\varepsilon_1$ (1)

$GNHit$ $= \alpha i + \beta_1 \ UNEMPit + \beta_2 \ INFit + \beta_3$
$lnGIit + + \beta \ lnGINIDit ....\varepsilon_2$ 2)

Based on the research methodology, hire the model of this research:
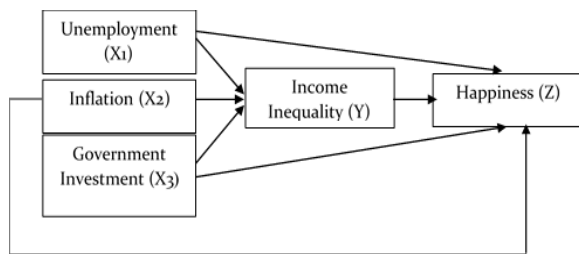
Source: Data processed, 2020
Figure 3. Model of Research

RESULTS AND DISCUSSION

This research uses cross-sectional data, and the data are tested by path analysis in order to know the correlation between each variable of this research.

Table 1. Path Analysis Model Summary I

Model Summary				
1	R	R Square	Adjusted R Square	Std. Error
	.411a	0.166	0.086	0.036688

a. Predictors: (Constant), Government Investment, Inflation rate, Unemployment
Source: SPSS Output (Data Proceed, 2020)

The value of r square contained in the summary model table is 0.169. This indicates that the contribution of X_1, X_2, and X_3 to Y is 16.9%, while the remaining 83.1% is a contribution from other variables outside this research. Meanwhile, for the e1-value it could be seen from the following mathematical functions:

Table 2. Path Analysis Model I

		Unstandardized Coefficients		Standardized Coefficient	T	Sig.
		B	Std. Error	Beta		
1	(Constat)	0.328	0.032		10.408	0
	Unemp (X1)	-0.002	0.004	-0.088	-0.506	0.617
	Inf (X2)	0.007	0.008	0.14	0.831	0.412
	GI (X3)	7.17E-07	0	0.415	2.397	0.023

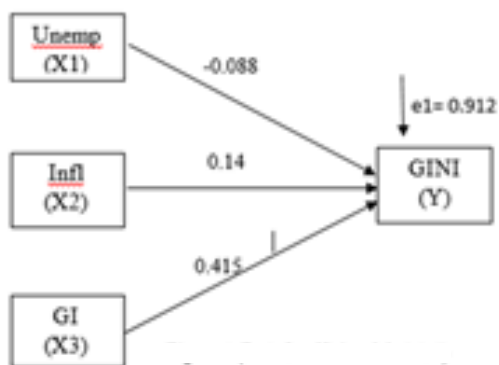a. Dependen Variable: Index Gini

$e_1 = \sqrt{(1-nilaiR_2)}$
$= \sqrt{(1-0.169} = 0.912$ (3)

Based on the description above, the coefficient path model I described as follows:

Source: Data processed, 2020

Figure 4. Path Coefficient Model I

Table 3. Path Analysis Model Summary II

Model Summary			
1 R	R Square	Adjusted R Square	Std. Error of the Estimate
.347a	0.121	-0.001	1.91923

a. Predictors: (Constant), GNI index, Unemployment, Inflation, Gonernment Investment

Source: SPSS Output (Data Proceed, 2020)

Evidence from r square which is 0.121, this indicates that X1, X2, X3 and Y have such impact approximately of 12.1% on variable Z. While the remaining 87.9% is influenced by other variables outside this study. Meanwhile, for the e2-value it could be seen from the following mathematical functions:

Table 4. Path Analysis Model II

		Unstandardized Coefficients		Standardized Coefficient	T	Sig.
		B	Std. Error	Beta		
1	(Constat)	71.937	3.541		20.317	0
	Unemp (X1)	0.18	0.231	0.142	0.781	0.441
	Inf (X2)	-0.257	0.427	-0.107	-0.603	0.551
	GI (X3)	2.19E-05	0	0.253	1.282	0.21
	GINI (Y)	-6.987	9.551	-0.14	-0.732	0.47

a. Dependent Variable: Happiness Index

$e_2 = \sqrt{(1 - \text{nilai } R_2}$

$\quad = \sqrt{(1 - 0.121)}$

$\quad = 0.936 \hspace{6cm} (4)$

Based on the description above, the coefficient path model I described as follows:
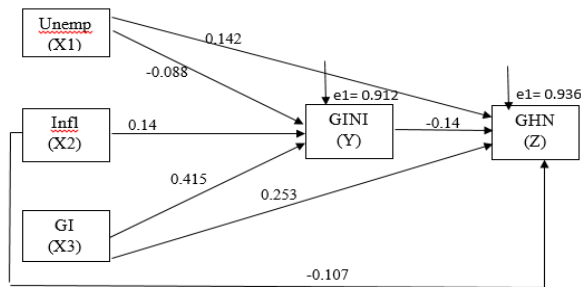
Source: Data processed, 2020

Figure 5. Regression Model II

Income inequality is disproportionate distribution condition regarding to sum of National household income (Todaro & Smith, 2012). The phenomenon of income inequality in such countries represents social stratification between the poorer and richer (Newman, Johnston, & Lown, 2015). This situation triggers such dramatic inequality in societies due to the economic condition more drastic. Furthermore, income inequality disproportionally impacts individuals' happiness specifically for low-income, because it reflects such perceived phenomenon of the rich getting richer (Oshio & Kobayashi, 2009).

Analyzing whether greater income inequality constraints the growth of economic has proved challenging, and it is much depicted in several literature. Theoretically, the impact is able to going either. The higher income inequality arises,

that is to say, due to the existing higher reward of entrepreneur activity and innovation, able to boost the growth of economic conditions (Aiyar & Ebeke, 2020). Nevertheless, the higher income inequality also impair growth, because of such lack of productive of lower-income households. This is happened because of slower accumulation of human capital, while the exclusion of financial is greater time to time.

Several factors influenced income inequality. Unemployment, inflation, and government investment are such variables which have impact on income inequality. There are various number of researches which delineated regarding to those three macro-economic variables. Based on the result of coefficient value (Table 2) it is known that variable of unemployment has negative effect on income inequality. This is in line through the previous researches that hat the more unemployment increase, the highest income inequality rate (Blejer & Guerrero, 1990; Deyshappriya, 2017; Suhendra, Istikomah, Ginanjar, & Anwar, 2020). Some researches revealed unemployment brings negative impact on income inequality (Becchetti, Masaari, & Naticchioni, 2014; Deyshappriya, 2017; Suhendra, Istikomah, Ginanjar, & Anwar, 2020) that is to say, the arising number of unemployment will trigger the increasing number of income inequality. Meanwhile, for variables of government investment and inflation have positive impact on income inequality. Refers to the result that is evidence that the former brings positive impact. This is because when the government investment is high the dropped down GINI index ratio. But, this finding revealed that the more government invest, the GINI index is high. While for the latter, the finding does not accordance through our prediction that inflation is should be negative. This is because inflation creates a wider gap income (Sireon, 2017) therefore, inflation contributes in order to increase the lower-income rate which is triggers the

climbing up income inequality specifically in the lower-income community.

On one hand, unemployment is one of macro-economic problems of such nations which contributes significant impact on national economic development, which triggers such decreasing subjective well-being. This is in line due to several researches depicted that unemployment has negative impact on individual happiness (Lucas, Clark, Georgellis, & E, 2004; Clark, 2003; Ochsen & Welsch, 2011; Malešević, 2008). This is because, when people are unemployed it would impact their psychology and losing their happiness feeling due to no income and return in their life. That is to say, they are experiencing such loss of control of their life which able to generate depressive state phase. Thus, based on the information, unemployment absolutely affected human well-being.

On the other hand, another macro-economic variable which indicated effecting on happiness is inflation. This condition happened due to monetary distress which triggers the high consumption rate due to the increasing number of property prices. Thus, people have to spend more their amount of money for purchasing goods, while their national economic condition is unstable because of inflation effect (Ouardighi & Munier , 2019).

Refers to the empirical result, the coefficient table (Table 2) shows that the direct impact of independent variables which are unemployment, and government investment bring positive effect on happiness index. Actually, the result of the former is not appropriate through the authors' prediction, that unemployment should be brought negative impact toward happiness index. This is also does not accordance through the previous research that the more unemployment increase, the more happiness

decrease (Lucas, Clark, Georgellis, & E, 2004; Clark, 2003; Ochsen & Welsch, 2011; Malešević, 2008). This is because, when people are unemployed it would impact their psychology and losing their happiness feeling due to no income and return in their life. That is to say, they are experiencing such loss control of their life which able to generate depressive state phase. Thus, based on the information, unemployment absolutely effected human well-being.

However, the result of the latter is appropriate with the prediction that government investment has positive impact on happiness index. This finding also in line with the previous research. This is because through the government policy, they able to provide such better facility in maintaining and identifying which factors that potentially able for boosting well-being. One of ways which government can do is increase the national investment rate. This is because, investment significantly could reduce income inequality, and at the same time able to boost well-being (Blejer & Guerrero, 1990; Deyshappriya, 2017; Suhendra, Istikomah, Ginanjar, & Anwar, 2020).

Empirically, there were several researches which examine regarding to relation between income inequality and happiness, and those existing researches revealed mixed result. Some researches were reported such negative correlation between income inequality and happiness, such as (Delhey & Dragolov, 2014; Ferrer-i-Carbonell & Ramos, 2014). The negative correlation between income inequality and happiness happens due to inequality of right, which means that only the reach who can mobile and move up and down the social ladder. Furthermore, Peng Waang et al which reported that that higher levels of income inequality lead to such low level of happiness, evidence from Israel based on Morawetz et all research (Wang, Pan, & Lou, 2014), Hagerty also explained the closes one that the more

inequality of income distribution decrease, the high level of happiness appear (Hagerty, 2000).

Becchetti et all (2014) found that there was a significant increase of happiness inequality in German for over 1992-2005 based on German Socio-Economic Panel data (GSOEP). The empirical result revealed that the growth of income indicates able to reduce such happiness inequality in Germany. That is to say, the more income inequality decrease, the more society's happiness increase (Becchetti, Masaari, & Naticchioni, 2014), this finding was consistent through the research of (Lakshmanasamy & Maya, 2020). While some empirical studies which produce that there is positive association between income inequality and happiness are (Haller & Hadler, 2006; Helliwel & Huang; ect, Zagorsk, & Piotrowska, 2014), which revealed that income inequality increase such happiness, evidence from China through its effects on rural resident, who are optimistic about their life. On one hand, Theresia Puji Rahayu explained that increasing income does not always followed by increasing happiness (Rahayu, 2016). That is to say income and happiness have positive association in one point of tome but no for over time. Thus, although income is able to effect happiness, but it is not for long lasting, which means temporarily.

Thus, based on the information, income inequality and happiness have positive association, but negative correlation. The empirical study evidence from China revealed that such happiness decreases as income inequality increase. This result based on data of respondent, which shown that most people who experiencing lower income average level tend to unhappiest compared to the rich, the data reported that the poorer only able to reach a maximum of happiness with a GINI in between 0.42 and 0.44 (Wang,

Pan, & Lou, 2014). That is to say, family with lower income average tend to unhappy because they do not have mobile activity (envy effect) as the richer who can drive economic activities, evidence from Korea (Kang, Lee, & Song, 2020). The empirical study from Japan also delineated the closes one that income inequality effect such happiness individual's condition, not only that this is also effected by the level of education which lead people unemployed, and absolutely this condition indicates affected on the level of happiness (Oshio & Kobayashi , 2009).

Analysis of the influence of Unemployment (X_1) through income inequality (Y) on happiness index (Z) is that the direct impact which given by X_1 to $Z = 0.142$, while the indirect influence of X_1 through Y on Z is calculated by multiplication between the value of beta X_1 to Y with the beta value of Z is: 0.070. Based on the results of this calculation, it is known that the value of direct influence is 0.142 and indirect influence is 0.070 indicating that the value of indirect influence is less than direct influence. This means that indirectly, X_1 through Y has no significant effect on Z.

Furthermore, the result of variable of inflation (X_2) through income inequality (Y) on happiness index (Z) is that the direct influence which given by X_2 to $Z = -0.107$. While the indirect effect of X_1 through Y on Z is calculated by multiplication between the value of beta X_2 to Y and the beta Z value of: -0.0196. Based on the results of these calculations it is known that the value of direct influence is 0.107 and indirect influence is -0.0196 which indicates that the value of indirect influence is greater than the direct influence. This means that indirectly, X_2 to Y has a significant effect on Z.

Another explanation also coming from the influence of variable government investment (X_3) through income inequality (Y) on happiness index (Z). The result showed that the direct effect which given by X_3 to $Z = 0.451$. While the indirect influence of X_4 through Y on

Z is calculated by multiplication between the value of beta X3 to Y and the beta Z value of: 0.581. Based on the results of this calculation, it is known that the value of direct influence is 0.451 and indirect influence is 0.581 which indicates that the value of indirect influence is greater than direct influence. This means that indirectly, X3 to Y has a significant effect on Z.

Based on the result, it could be seen that the fix model of path analysis is bellows:
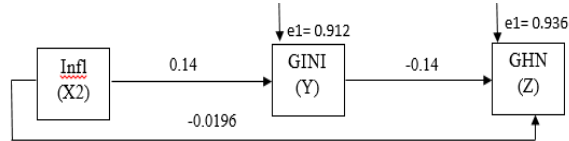
Source: Data processed, 2020

Figure 6. The fix model of path analysis

The result of model above depicts that both direct and in direct impact toward happiness index is positive significant. Absolutely, this is in line through the previous research which reported that inflation and income inequality bring negative effect on happiness index (Delhey & Dragolov, 2014; Ferrer-i-Carbonell & Ramos, 2014; Wang, Pan, & Lou, 2014). Nevertheless, mostly Indonesian happiness rate is not effected by income inequality or even macro-economic variable such as inflation. This evidence, although Indonesia has high income inequality, it still has such a high rate of happiness index compared to another Asia-Developed Country.

As Yogyakarta one of provinces in Indonesia, although it has the highest income inequality, the happiness index there is still high as well. Why this is happened? This is because most of them do not depend their happiness on financial aspect. As Indonesia has the biggest muslim populations, they have a tendency that happiness could be created through the level of religiosity and socio-culture aspects

(Candra, 2017). Thus, the more religious people are, the more welfare they get, and this is in line through the maqāṣid sharia concept, hifdz al-din, which command people to protect their worship as their primary needs to get such welfare of life hire-after. Furthermore, besides of religiosity, there is a culture which trigger them to help each other in order to decrease their economic diversity, and this condition triggers them to have a good confidence in order to live-life (Solikhin, 2020).

CONCLUSION

This research finds that income inequality has negative and significant effect on happiness of Indonesian. This result is consistent and support the previous research which revealed that the increasing number of income inequality triggers the decreasing number of happiness index. Nevertheless, this condition does not in line in Indonesia. Although Indonesia experience high income inequality, but it still has such high well-being index on individual. This is happened because, happiness of most Indonesian is measured not only from capital or prosperity, but religiosity and socio-culture aspects, which more dominant determine the rate of happiness index.

Refers to the result, this research has few of recommendation both for local or government in order to more develop the future research. The first is that government should be more provide and update the largest data of happiness index in every province in Indonesia. That is to say, there are only two years of happiness index data specifically on 2014 and 2017, which absolutely it influences the robustness of this model. The robustness model of this research is too small, and it indicates due to the shorten lag of data on happiness index. Therefore, for the next research it should be

provided such larger lag of data in order to provide the strengthen model. The second suggestion is related to inflation and attempts to maintain price stability. Thu, every province in Indonesia should achieve the inflation target as a reduction in inflation reduces income inequality.

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