
Efforts to enhance active cooperatives in Indonesia based on macroeconomic variables

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Abstract: Cooperative is a group of people that allow several people or legal entity working together on a basic of voluntary held a job to improve the lives of its members (Sagimun, 2005). The purpose of this study is to look at the effect of macroeconomic variables, namely the level of income per capita, unemployment rate, education level, poverty level, average expenditure per capita and human development index of 33 provinces in Indonesia to the number of active cooperatives in every province in Indonesia. In addition, this study uses the sample data from every province in Indonesia with the time span from 2006 to 2013. This study uses a quantitative approach using Multiple Regression through SPSS 16. The results of this study can be utilised by the government, especially the Ministry of Cooperatives and SMEs, public and non-governmental organisations in a joint effort to increase Indonesian cooperatives in facing the internationalisation.

Keywords: active cooperation; unemployment rate; education level; level of poverty; human development index; HDI; expenditure per capita; per capita income; Indonesia.

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1 Introduction

Cooperative is an association of people, who usually have limited economic capacity, through a form of organisation, democratically controlled enterprise, each providing an equivalent contribution to the necessary capital, and are willing to bear the risks and receive remuneration in accordance with the contribution they do (Baswir, 1997). Cooperative is a group of people that allow several people or legal entity working together on a basic of voluntary held a job to improve the lives of its members (Sagimun, 2005).

In Indonesia, cooperative managed to become an organisation that has a special place in the structure of the national economy. Family principles which are owned by the cooperative are in accordance with the values espoused by the Indonesian nation. Also, as a formal sector in Indonesia, cooperative positively affected by its linkage with the informal sector; as, such links helps the formal sector to overcome the financial, managerial and technological skills (Majumdar and Borbora, 2014). Cooperative principles, such as self-help, cooperation for the common (mutual cooperation) and some other moral essence also in tune with the culture and governance of the nation of Indonesia. In addition, since the beginning of the cooperative in Indonesia, indeed has been directed to favour the economic interests of the people, especially the economically weak so that the cooperative is expected to be a pillar or a national economy pillar, economic movement institute, and a counterbalance to the other pillars of the economy.

The existence of cooperatives is expected to provide a variety of positive impact in the Indonesian economy. Therefore, it is not surprising that the cooperative managed to get the attention of the government. The existence of cooperatives in Indonesia is also increasingly strengthened by the act that supports the cooperative which is the Constitution of 1945. Cooperative interpreted in depth in Section 33 of the 1945 Constitution, particularly paragraph 1 "the economy is structured as a joint venture based on the principle of the family", and certainly the most suitable business entity based on the principle of kinship is cooperative.

Approximately 70–90% of the chain associated with the need for food and services sector that the community is still in need is provided by cooperatives. Some of them have been transformed into an economic giant that has a great influence in economic and political structures in the world, not only in their home country. Strengthening cooperation in national economic system is also done through the development of public

awareness. However, in Indonesia alone, in the 1970s cooperatives experienced the dilemma in which the cooperative had to take care of themselves and on the other hand, they also have to compete with large companies that have benefited in terms of capital and government policies. At the peak, currently the image of cooperation as the driver of economic populist completely dimmed. Cooperative began to be abandoned by the people of Indonesia. As a result, the performance and contribution of cooperatives to the economy of Indonesia also declined. Whereas the cooperative should be expected to have a positive impact on the Indonesian economy.

This phenomenon becomes the background reasoning this research. This study will examine the macroeconomic factors for each province as per capita income, unemployment rate, level of education, level of poverty, human development index and the level of spending in an effort to increase active cooperative in Indonesia. Recently, deepened global macroeconomic uncertainties so it is important to study about it (Çağlı et al., 2014). The macroeconomics variables that used in this research also include financial development factors. It has been argued that the financial development enhances economic growth by enabling efficient inter temporal allocation of resources, capital accumulation and technological innovation (Jahfer and Inoue, 2014). Data macroeconomic factors used is the macroeconomic factors per province in Indonesia from 2006 till 2013 because the data before 2006, the number of provinces in Indonesia still amounted to 30 provinces surveyed, whereas the study is on 33 provinces. On the other side, the complete data in 2014 have not been issued by the Indonesian Government.

2 Literature review

2.1 Cooperative

The cooperative is “an association of a number of people who sign up voluntarily to achieve the same objective through the establishment of a democratically controlled organisation, by depositing a contribution equal to necessary capital and through the sharing of risks and benefits of reasonable efforts, whose members play an active part” (<http://www.worldbank.org>). In Indonesia, active cooperation is cooperative in the past two years held the Annual Members Meeting or cooperatives which in recent years do business (<http://www.dekop.gov.id>).

2.2 Per capita income

One of the macroeconomic factors that correlated with the active cooperation is the income per capita. This is shown by regional GDP per capita at current prices. In Indonesia, regional GDP is the number of the remuneration received by the factors of production that participate in the production process in a region or area within a specified period (one year) (<http://www.bps.go.id>). Regional GDP per capita is regional gross domestic product and regional income divided by the total population at mid-year.

In theory of economics, the relationship between the active cooperation and economic conditions or income per capita can be positive (Tambunan, 2008). High per capita income makes good potential markets output, or booming market output, giving an incentive for the development of cooperative activity because cooperative actors see the

huge market opportunity (*ceteris paribus*). From these explanations, a hypothesis can be formulated as follows:

H₁ The higher income per capita, the more number of active cooperatives.

2.3 Unemployment rate

Other macroeconomic factors that also have a correlation with the active cooperation are the unemployment rate, which is shown by the unemployment and labour force participation rate. Unemployment rate (UR) provides an indication of the working age population that is included in the group of unemployed. In Indonesia, labour force participation rate is the ratio or the amount of labour force toward the working age population (people aged 15 years and above) are expressed as a percentage (<http://www.bps.go.id>).

Based on the research of Tambunan (2008), it can be seen a correlation between active cooperatives and the unemployment rate in each province in Indonesia. The higher the level of unemployment means that the unemployed will seek jobs by participating in building or develop a cooperative. From these explanations, a hypothesis can be formulated as follows:

H₂ The higher unemployment rate, the more number of active cooperatives.

2.4 Education level

Other macroeconomic factor that correlated with the active cooperation is the level of education. This is shown by the percentage of the population, aged over ten years, according to highest high school diploma owned. In Indonesia, highest high school owned by a population is a main indicator of the formal education quality (<http://www.bps.go.id>). The higher high school diploma owned by the average population of a country reflects the higher level of intellect of the nation of the country.

However, there are real differences with what happened in Indonesia. Educated future generation assume that the cooperative is a business for the elderly or outdated thing to do (Soetrisno, 2003). This idea becomes the underlying principle for the college graduates to be increasingly uninterested in running the cooperative. From these explanations, a hypothesis can be formulated as follows:

H₃ The higher education of community, the fewer number of active cooperatives.

2.5 Level of poverty

Poverty level shown by the number and percentage of poor population is also one of the macroeconomic factors that have a correlation with the active cooperation. In Indonesia, the poor are population who have monthly average expenditure/income per capita below the poverty line (<http://www.bps.go.id>).

According to Case and Fair (2004, p.462), the vicious-circle-of-poverty hypothesis suggests that a poor nation consumes most of its income just to maintain its already low standard of living. Consuming most of the national income implies limited savings, and

this implies low levels of investment. Therefore, as people below the poverty line used most of their income for consumption, they do not have the funds to be invested in the cooperative. From these explanations, a hypothesis can be formulated as follows:

H₄ The higher poverty rate, the fewer number of active cooperatives.

2.6 Human development index

Human development index (HDI) measures human development based on a number of achievements of the basic components of quality of life. As a measure of quality of life, HDI is built through a three-dimensional approach as the foundation. The dimensions include a long and healthy life; knowledge, and a decent life. The three dimensions have a very broad sense as it relates to many factors. To measure the dimensions of health, the life expectancy number at birth is used. Furthermore, to measure knowledge, the combination of literacy rates indicator and average length of school is used. As for measuring the dimensions for decent life, the purchasing power towards several basic needs is used. This can also be seen from the average amount of spending per capita as income approach that can represent the gain of decent life development (Braverman et al., 1991). Based on these explanations, a hypothesis can be formulated as follows:

H₅ The higher HDI, the more number of active cooperatives.

2.7 Expenditure per capita

Consumption expenditure is carried out to maintain the standard of living. At low levels of income, consumption expenditures are generally spent on basic needs in order to meet the physical needs. Food consumption is an important factor because the food is kind of the main items for survival. But there are various kinds of consumer goods (including clothing, housing, fuel, etc.) which can be considered as the need to organise the household. Diversity depends on the level of household income. Income levels vary resulted in differences in consumption levels (Baverman et al., 1991). From these explanations, a hypothesis can be formulated as follows:

H₆ The higher per capita expenditure, the fewer number of active cooperatives.

3 Research issue and methodology

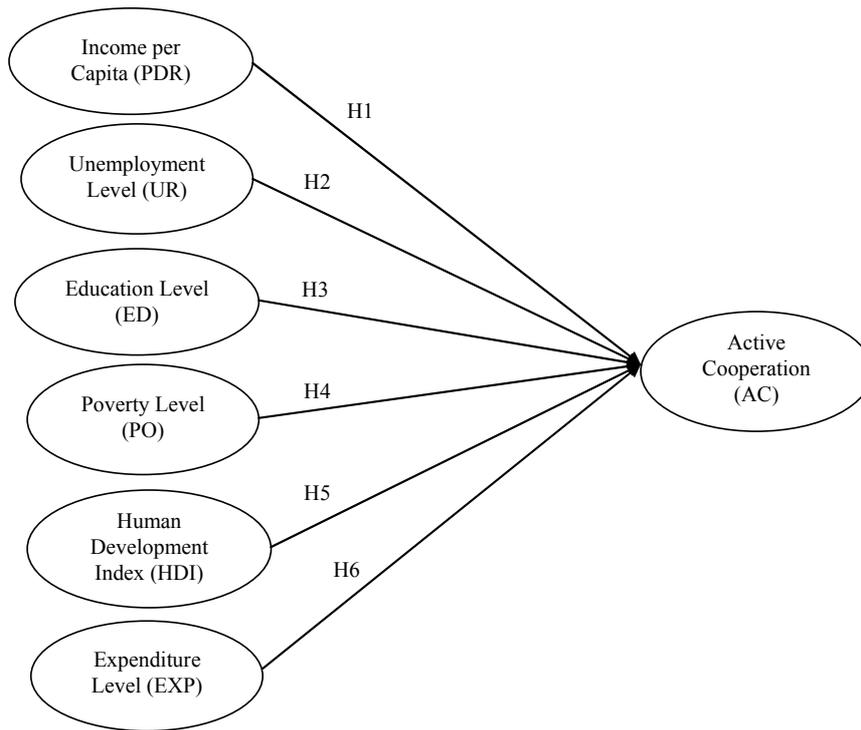
3.1 Research issue

The data gathering in this research is conducted by literature studies, interviews and questionnaires. Literature means study of previous studies as supporting the achievement of objectives in this study. Literature sources that will use in this study originated as books, journals, articles, government reports, the research findings and other data related. Interview means interview conducted at the cooperatives, government agencies and economists. Secondary Data means secondary data obtained from the Central Bureau of Statistics Surabaya, and Internet data from the Ministry of Cooperatives and SMEs.

3.2 Methodology

Secondary data collection is conducted to obtain data on the dependent variable. The data is the number of active cooperation and the data of independent variables such as income per capita, unemployment levels, education levels, poverty levels, human development index, and expenditure levels for each province from 2006 through 2013.

Figure 1 Research model analysis (2015)



4 Findings and discussion

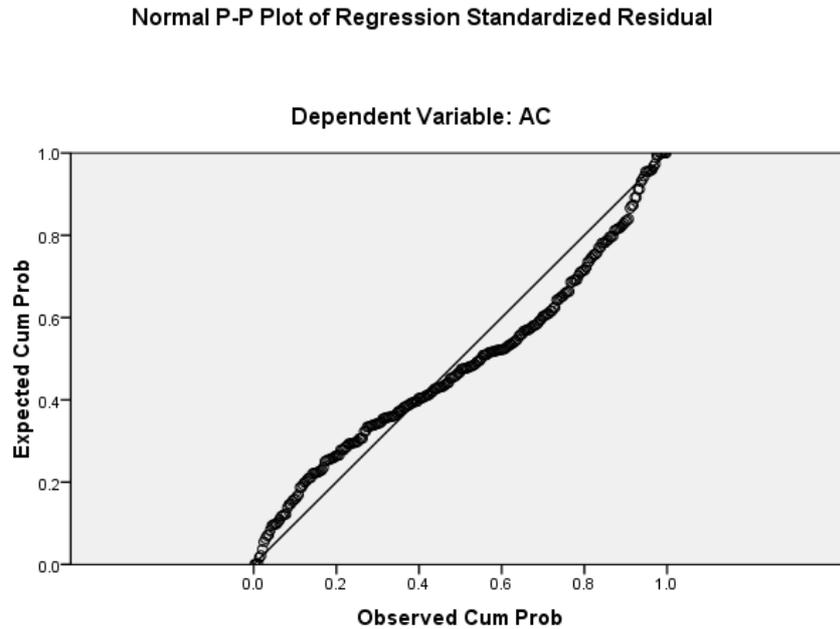
4.1 Findings

This study is using multiple regressions to examine the effect between the independent variables towards the dependent variable. Statistical analysis tool used to answer the problem formulation of this research is SPSS 16 software. When all secondary data has been collected, then the statistical testing can be done. The first statistical testing is normality test before conducting hypothesis test. The reason for the validity and reliability testing of the secondary data is not required to be conducted is because the data is taken from a reliable source that can be said to be valid and reliable.

4.1.1 Normality test

The results from SPSS output is used to see the normality of the Active Cooperation data with macroeconomic variables using a graph as seen in Figure 2.

Figure 2 Normality test (P-plot) analysis (2015)



From the normality test result, the secondary data used in the study are normally distributed. The explanation is because the spread of the data were not far from the diagonal line so it can be considered to pass the normality test. Therefore, this research can be continued.

4.1.2 Results of coefficient determination

From Table 1, coefficient determination/R-square (R²) generated is as much as 0.740 which means that the variations of variables of income per capita, unemployment level, education level, poverty level, human development index, and expenditure level together can explain the variation of variable of active cooperation by 74 %, while the rest 26 % explained for other variables beyond the model which is not yet observed.

Table 1 Coefficient determination

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.864 ^a	.746	.740	2,359.640

Note: ^aPredictors: (constant), expenditure per capita, education level, per capita income, level of poverty, unemployment rate and human development index.

Source: SPSS 16 result (2015)

4.1.3 Result of multiple regressions

The results of multiple regression are as follows:

Table 2 Coefficients regression

Model	Unstandardised coefficients		Standardised coefficients	t	Sig.
	B	Std. error	Beta		
1 (Constant)	-4,481.712	4,877.353		-.919	.359
PDR	.018	.001	.898	25.167	.000
UR	-76.541	59.318	-.050	-1.290	.198
ED	-62.823	14.070	-.171	-4.465	.000
PO	-7.396	23.350	-.013	-.317	.752
HDI	225.602	70.982	.155	3.178	.002
EXP	-.011	.001	-.483	-11.726	.000

Note: ^aDependent variable: active cooperation.

Source: SPSS 16 result (2015)

From Table 2, the regression equation can be written as follows:

$$AC = b_1PDR + b_2UR + b_3ED + b_4PO + b_5HDI + b_6EXP$$

$$AC = 0.898PDR - 0.050UR - 0.171ED - 0.013PO + 0.155HDI - 0.483EXP$$

Based on Table 2, income per capita and human development index have positively influence towards active cooperation. Unemployment level, education level, poverty level and expenditure level have negatively influence towards active cooperation. Furthermore, income per capita has the greatest regression coefficient compare to other variables, which is 0.898. In the other side, poverty level has the smallest influence on active cooperation, it is because poverty level has the lowest regression coefficient compared to other variables, which is equal to -0.013.

Table 3 F-test result

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	4.208E9	6	7.014E8	125.969	.000 ^a
Residual	1.431E9	257	5,567,901.239		
Total	5.639E9	263			

Notes: ^aPredictors: (constant), expenditure per capita, education level, per capita income, level of poverty, unemployment rate, human development index.

^bDependent variable: active cooperation.

Source: SPSS 16 result (2015)

4.1.4 F-test

Based on the calculation of SPSS from Table 3, the significance of F-test value in the model is 0.000, this mean H₀ is rejected, so it can be concluded income per capita,

unemployment level, education level, poverty level, human development index and expenditure level together influencing active cooperation significantly. This mean, the hypothesis which declared that income per capita, unemployment level, education level, poverty level, human development index and expenditure level are jointly influence active cooperation is accepted.

4.1.5 t-test

The t-test used to determine whether the independent variables of income per capita, unemployment level, education level, poverty level, human development index and expenditure level partially (independently) have significance influence on active cooperation. If the value of t-test is below 0.05, then it can be stated that the variable is significantly influenced by partially.

From Table 4, it can be explained that the variables of income per capita, education level, human development index, and expenditure level have significantly influence towards active cooperation because it has a significance value below 0.05. Furthermore, from Table 4, it can be explained that unemployment level and poverty level have insignificantly effect towards cooperation because the significance values upper 0.05.

Table 4 t-test result

<i>Model</i>	<i>T</i>	<i>Sig.</i>
1 (Constant)	-.919	.359
PDR	25.167	.000
UR	-1.290	.198
ED	-4.465	.000
PO	-.317	.752
HDI	3.178	.002
EXP	-11.726	.000

Note: ^aDependent variable: active cooperation.

Source: SPSS 16 result (2015)

4.2 Discussion

From the research that has been done, the result is from six hypotheses proposed, there are four accepted hypotheses. Namely, there is a positive and significant effect of per capita income, education level, and human development index of the active cooperation in Indonesia. In addition, hypothetical of expenditure per capita has a negative and significant effect on active cooperation in is also accepted. However, the other two hypotheses were rejected. Namely, hypothesis of there are significant effect of unemployment and poverty level towards active cooperation which proven not to be significantly affect Indonesia's active cooperation.

5 Conclusions, limitation and research extension

5.1 Conclusions

Income per capita is the macroeconomic variable that has positive effect and most influence on active cooperation in Indonesia. This can be explained that, per capita income can create market opportunities and provide a chance to increase income for its members. With higher per capita income, the revenue after deducted with consumption can be used to perform or participate in cooperative activities. From the results of this study, it can be seen that the government's efforts in improving the per capita income, then the government participate in achieving the increase in active cooperation Indonesia indirectly. Understanding of cooperatives as economic activities also need to be more strengthened so that people do not underestimate the cooperative. Moreover, the intensification and the extension of education and training as well as the management of the cooperative control system also need to be improved. The independence of the cooperative also plays an important role in the governance of the national economy. With independence, the cooperative will be able to access resources with the applicable requirements, and able to develop their ability on its own. The higher per capita, the greater number of cooperatives, and then the national economy will also increase and improved in long term.

Expenditure per capita is the macroeconomic variable that placed the second highest affect and has a negative effect on active cooperation in Indonesia. This can be explained that the greater per capita expenditure of the public, it will further lower the interest the community to run or participate in active cooperation. Expenditure is divided into expenditure for the transaction, precaution and speculation (Case and Fair, 2004). Where the main expenditure is on consumption expenditures. Consumption expenditure is done to maintain the standard of living. At low levels of income, consumption expenditures are generally spent on basic needs in order to meet the physical needs. Food consumption is an important factor because the food is kind of the main aspect for survival. After consumption expenditures, it can be used to speculate, such as to participate in the cooperative. Therefore, people should not become a consumptive society so that the remaining funds can be used for invest. In addition, the government also needs to actively conducting counselling to reduce the rate of consumption of the community in order to improve the welfare of society.

The macroeconomic variable that placed the third highest affect and has a negative effect on active cooperation is the level of education. According to Case and Fair (2004, p.132), knowledge and skills acquired through education. The higher a person's education level, the knowledge and the skills will also increase. So, if someone is getting higher levels of education, the knowledge and understanding of the cooperative will also increase. However, there are real differences with what happened in Indonesia. Educated future generation assume that the cooperative is a business for the elderly or outdated thing to do (Sagimun, 2005). This is the underlying thought of college graduates that they are less interested in running the cooperative. This assumption is reinforced by the lack of understanding of today's young generation about the cooperative in school or college. Supposedly, this educated young generation can improve the cooperative into an entity that is more advanced and creative, but still holds the principle of the family as a basic principle or kinship. Therefore, the role of the government, especially the Department of Cooperatives is essential in revitalising the cooperative to be better, not only internally in

cooperative, but externally is also crucial to be improved so as to attract the interest of the educated younger generation. The participation of school and higher education is also important to teach about the role of cooperatives. Because in school and higher education, the students are getting formal education and also the understanding of values, which family principle and kinship are the basis of cooperative is a part of it. Cooperatives also need to start some changes to become an entity that follow the trend of the era to adapt the potential of educated young people. In addition, it is also necessary to improve the market and technology, access to capital and human resources in cooperatives, in order to make the cooperative advanced and growing.

Human development index is a fourth variable that has the greatest influence and positive impact on active cooperation. Human development index (HDI) measures human development based on a number of achievements of the basic components of quality of life. As a measure of quality of life, HDI is built through a three-dimensional approach as the foundation. The dimensions include a long and healthy life; knowledge, and a decent life. The three dimensions have a very broad sense as it relates to many factors. To measure the dimensions of health, life expectancy number at birth is used. Furthermore, to measure knowledge, the combination of literacy rates indicator and average length of school is used. As for measuring the dimensions for decent life, the purchasing power towards several basic needs is used. We can see this from the average amount of spending per capita as the development of an achievement and representing for a decent life. Therefore, the higher the level of HDI community, they can increase their participation in the cooperative. The reason is because the higher HDI, the higher ability to make fulfil the needs and also more prosperous they are, the more likely people will set aside part of their income to participate in the cooperative. From this understanding, the government should be able to increase the HDI so that active cooperation can be further enhanced in Indonesia.

Poverty levels is macroeconomic variable that also has a negative influence but not significant towards active cooperation in Indonesia. From these results, it can be seen that the understanding of people with incomes below the poverty level towards the cooperative is still considered low. People below the poverty level should make the cooperatives as a means of seeking revenue, considering the cooperative is one means to reduce poverty by increasing employment opportunities. Cooperative itself is a part of something to improve the capacity and competitiveness of the national industry, socially oriented than pure business-oriented (Tambunan, 2008). Furthermore, when compared between cooperatives and private enterprises, most people with low income will get more benefit by joining the cooperative compared with private enterprises. The reason is because the cooperative is based on kinship unlike private entities that focus on business benefits or pure profit. Family principle or kinship is reflected from one of the cooperative purpose, which is to obtain and increase revenue for the welfare of its members. Therefore, the role of government, especially the Department of Cooperatives, is very important in disseminating the cooperative to lower income people. In addition, the cooperative also must be able to provide education and training in order to equip people in creating a creative and innovative new business. The purpose is so that cooperative can be an entity that can survive and continue to grow in the market share.

Macroeconomic variable that has a negative influence but not significant is unemployment level. Active cooperation can provide high chances and employment opportunities to get a job for the people with the status of unemployed. Socialisation and

introduction of cooperative the community should also continue to be conducted. The reason behind it is because less familiar cooperatives in the wider community to be one of the causes of increasing cooperative Passive today. Furthermore, if the government can socialise cooperative role with both the workforce who do not get a job or who are currently working but the private sector to increasingly keen to cultivate good cooperative as the main business and sideline. Of course, with the influx of labour force, it will have a positive impact because the cooperative is one entity that can create independence for its members. That is, by joining the cooperative, each member will receive benefits in the form of income for daily life and also knowledge of the business that is based on kinship.

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