Does Turnover Mediate the Relationship between Cooperative Capital and Surplus (SHU)?

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Abstract

Previous studies have indicated that the direct influence of cooperative capital on surplus (SHU) is linear and positive. However, how the capital can increase surplus has not been formally explained. Therefore, in this article the authors try to explain the mechanism of the influence of cooperative capital on surplus (SHU) by including turnover as an intervening variable in the relationship between cooperative capital and surplus. This study used secondary data which consist of cooperative capital, surplus, and business turnover from 43 cooperatives in Indonesia recorded in the annual report of the Ministry of Cooperatives and MSMEs 2016. Cooperative capital, surplus, and trunover are measured in rupiah. Path analysis was employed to analyze the data. The effect of mediation was tested by the causal method developed by Baron & Kenny and the product of coefficient method developed by Sobel. The results indicate that turnover perfectly mediates the relationship between cooperative capital and surplus. This research contributes to the lacking formal logical explanation of the relationship between cooperative capital and surplus, that is, cooperative capital encourages business turnover which eventually increases surplus. Therefore, cooperatives in Indonesia should be able to increase cooperative capital, especially internal capital or supporting external capital. In addition, the government should also encourage efforts to develop and promote cooperatives in Indonesia by making policies to facilitate financial access for cooperatives.

Keywords **cooperative, capital, turnover, surplus, mediating variable, path analysis**

Introduction

Article 33 of the 1945 Constitution explains that the Indonesian economy is supported by three economic actors, namely the state, the private sector, and cooperatives. According to the 1945 Constitution, the Indonesian economy is based on the principle of kinship. As its manifestation is the cooperative economic movement in the community. According to Sukidjo (2008) cooperatives are seen as the pillars of the Indonesian economy because of the basis of economic democracy, production is done by all for the benefit of all under the leadership or ownership of community members.

Cooperative according to Cooperative Law Number 25 of 1992 Article 1 has been defined as "business entity consisting of persons or legal entities by basing its activities on cooperative principles as well as the people's economic movement based on the principle of kinship". According to Majee & Hoyt (2011) cooperatives are not only profit-oriented but also oriented to the benefits of improving the welfare of members and society.

Cooperative capital formation consists of two components: internal capital (principal savings, mandatory savings, voluntary savings and reserve) and external capital (loan from members, banks, and other financial institutions) (Ruben & Heras, 2012).

Cooperatives are economic units where members mobilize their financial resources through savings or deposits by active members and used as business capital (Nuwagaba, 2012). Cooperative capital is used to finance its operational activities. The more production it is expected to be able to increase the surplus (SHU). Surplus according to Law Number 25 of 1992 Article 45 is defined as "the difference from all total revenues or receipts with total costs in one financial year". According to Utama (2011), the surplus obtained by cooperatives will affect their survival. The greater the capacity of the cooperative business entity to finance the expenses and activities carried out by its businesses, the greater the added value obtained by the cooperative which will further increase the cooperative surplus (Ariesta & Yolamalinda, 2014).

The studies by Ananiadis, Notta, & Oustapassidis (2003), Fulton & Hueth (2009), Chibanda, Ortmann, & Lyne (2009), Barton, Boland, Chaddad, & Eversull (2011), (Ruben & Heras, 2012) , King, Adler, & Grieves (2013), Grau, Hockmann, & Levkovych (2015), Li, Jacobs, & Artz (2015), Suputra, Susila, & Cipta (2016), Alho (2016), and Ariningsih (2017) show that the direct influence of cooperative capital on surplus (SHU) is linear and positive. This means that the larger the cooperative capital, the greater the surplus will be generated. However, how the capital can increase surplus has not been formally explained.

Therefore, in this article the authors try to explain the mechanism of the influence of cooperative capital on surplus (SHU) by including turnover as an intervening variable in the relationship between cooperative capital and surplus. The choice of turnover as an intervening variable is based on the findings of Ortmann & King (2007) and King, Adler, & Grieves (2013) that turnover is positively influenced by cooperative capital; greater capital will be able to increase the business turnover.

METHOD

This study is a causal associative study between independent variables on the dependent variable by entering intervening variable. In this study there is one dependent variable (surplus/SHU) and independent variable (cooperative capital) and one intervening variable (turnover). This study used secondary data which consist of cooperative capital, surplus, and business turnover from 43 cooperatives in Indonesia recorded in the annual report of the Ministry of Cooperatives and MSMEs 2016. Cooperative capital, surplus, and trunover are measured in rupiah. Path analysis was employed to analyze the data.

The mediating or intervening variable is the intermediate variable that is located between the independent variable and the dependent variable, so that the independent variable does not directly affect the change of the dependent variable. The pattern of direct relationship between the independent and dependent variables can be seen at Figure 1.
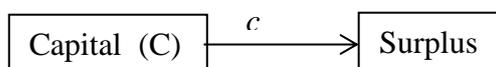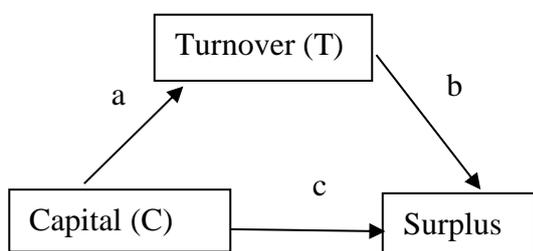
Figure 1. Regression model without mediating variable

The pattern of relationship between variables through mediation can be seen at Figure

Source: Suliyanto, 2011

Figure 2. Path analysis model of the effect of cooperative capital on surplus through turnover

Testing for the mediating effect is carried out by the causal method developed by Baron & Kenny (1986). The steps in using the causal method are: regressing the independent variable on the dependent variable, regressing the independent variable on the mediating variable, regressing the independent variable on the dependent variable by entering the intervening variable, and drawing conclusion whether the intervening variable perfectly or partially mediates the relationship between the independent and dependent variables.

The steps can be written in the following equations:

Structure I : $S = \beta_0 + \beta_1 C + e$

where :

S = Surplus

$\beta_{0,1}$ = Parameters of regression model

C = Capital

e = Error term

Structure II : $T = \beta_0 + \beta_1 C_1 + e$

where :

T = Turnover

$\beta_{0,1}$ = Parameters of regression model

C = Capital

e = Error term

Structure III : $S = \beta_0 + \beta_1 C + \beta_2 T + e$

where :

S = Surplus

$\beta_{0,1,2}$ = Parameters of regression model

C = Capital

T = Turnover

e = Error term

Turnover performs as a mediating variable when it meets the following criteria: 1) if in structure I, the independent variable (C) has a significant effect on the dependent variable (S), 2) if in structure II, the independent variable (C) has a significant effect on the expected mediating variable (T), 3) if in structure III, the variable expected as a mediating variable (T) has a significant effect on the dependent variable (S).

Turnover (T) is expressed as perfect mediator if after entering turnover, the influence of capital on surplus which was significant (before entering turnover) becomes insignificant after entering turnover into the regression equation. Turnover is expressed as partial mediator if after entering turnover, the effect of capital on surplus that was significant (before entering turnover) remains significant after entering the turnover in the regression model.

RESULTS AND DISCUSSION

The regression estimation in structure I which shows the effect of capitalon surplus, can be seen at Table 1.

Table 1. Regression estimation of capital on surplus

Parameters	Regression coefficients	p-value
Constant	4.9465	0.0005
Capital	0.3613	0.0000
R-Squared		0.8231

Regression structure I shows that the error probability of capital is 0.0000 smaller than α = 0.05. This result indicates that in regression structure I,capital has a significant effect on surplus. The R square value in regression model I is 0.82. The path diagram of regression structure I is presented at Figure 3.

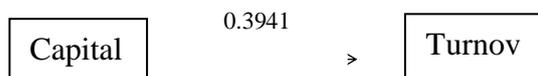Figure 3. Path diagram of structure I
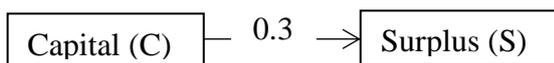
The estimation result of regression structure II which shows the effect of capital on turnover can be seen at Table 2.

Table 2. Regression estimation of capital on turnover

Parameters	Regression coefficient	p-value
Constant	6.3391	0.0000
Capital	0.3941	0.0000
R-Squared		0.8857

Regression structure II shows that the error probability of capital is 0.0000 smaller than alpha 0.05. These result indicates that capital has a significant effect on turnover. The R square value in Model II regression is 0.88. Thus the path diagram of structure II model is obtained as follows.

Figure 4. Path diagram of structure II

The estimation result of regression in structure III which shows the relationship of the capitalon surplus by including the mediating variable (turnover) can be seen at Table 3.

Table 3. Regression estimation of capital and turnover on surplus

Parameters	Regression coefficients	p-value
Constant	0.2730	0.8295
Capital	0.0367	0.5093
Turnover	0.8233	0.0000
R-Squared		0.9119

Model III regression shows that the error probability of capital is 0.5093 greater than alpha 0.05, meaning that capital has no significant effect on surplus. The error probability of turnover of 0.000 is smaller than alpha 0.05, indicating that turnover has a significant effect on surplus. The R square in Model III regression is 0.91. The path diagram of the structure III model is obtained from the combination of structure I and II as presented at Figure 4.
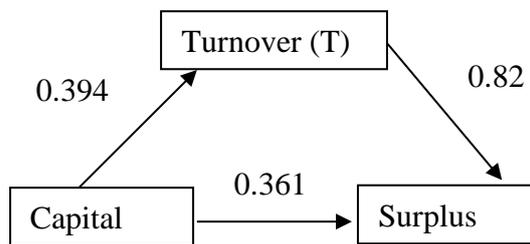

Figure 4. Path diagram of structure III

Based on the hypothesis testing criteria, if before entering the mediating variable (turnover), the effect of cooperative capital on surplus is significant and after the mediation variable is entered into the model turns to be insignificant, it can be concluded that turnover perfectly mediates the relationship between cooperative capital and surplus. This research supports the findings of Artmann & King (2007), Ruben & Heras (2012), and King, Adler, & Grieves (2013) which explain that turnover is influenced by cooperative capital. Capital will increasecooperative business turnover and will eventually increase the surplus. According to Ruben & Heras (2012) the formation of cooperative capital includes internal capital (principal saving, mandatory saving, voluntary saving, and reserve) and external capital (loan from members, banks, and other financial institutions). Thus, if the cooperative capital formation is greater, it will have an impact on business turnover and will affect the surplus. King, Adler, & Grieves (2013), and Grau, Hockmann, & Levkovych (2015) conclude that surplus is influenced by the cooperative capital. Capital also plays an important role in the sustainability of cooperatives, this is because the larger the capital will be able to influence the cooperative production capacity.

CONCLUSION

Based on the results of the study, it can be concluded that turnover perfectly mediates the relationship between cooperative capital and surplus. This research contributes to the lacking formal logical explanation of the relationship between cooperative capital and surplus, that is, cooperative capital encourages business turnover which eventually causes an increase in surplus. Therefore, cooperatives in Indonesia should be able to increase cooperative capital, especially internal capital or supporting external capital. In addition, the government should also encourage efforts to develop and promote cooperatives in Indonesia by making policies to facilitate financial access for cooperatives.

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