Analysis of Determinants of Cooperative Profit in Indonesia

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

This study aim knows influence and differences in business volume, own capital, outside capital and amount member to cooperatives profit in Indonesia before the Covid-1 pandemic and time Covid-19 pandemic with use quantitative method analysis used is multiple linear regression and paired T-test using SPSS software. Data in the form of business volume, own capital, external capital, total member cooperatives in 34 provinces in Indonesia. The results of the analysis that has been done obtained results that business volume 2019 is influential positive and no significant to cooperatives profit with mark *Sig* 0.453 and coefficients of 0.039. business volume 2021 matters positive and significant to cooperatives profit with mark *Sig* 0.002 and coefficients of 0.198. Own capital 2019 is influential positive and significant to cooperatives profit with mark *Sig* 0.000 and coefficients of 0.278. Own capital 2021 matters positive and no significant to cooperatives profit with mark *Sig* 0.673 and coefficients of 0.026. Outside capital 2019 is influential positive and no significant to cooperatives profit with mark *Sig* 0.185 and coefficients of 0.067. Outside capital 2021 matters negative and no significant to cooperatives profit with mark *Sig* 0.156 and coefficients of -0.080. Amount member 2019 is influential negative and significant to cooperatives profit with mark *Sig* 0.000 and coefficients of -0.239. Amount member 2021 matters positive and no significant to

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remainder results business with mark *Sig* 0.642 and coefficients of 0.041. There is a difference in business volume, own capital, outside capital and amount members in Indonesia cooperatives before and after the Covid-1 pandemic.

Keywords: Cooperatives profit; business volume; own capital; outside capital.

1. INTRODUCTION

Cooperative is associations initiated by capable people limited. EU Consensus [1], Bianchi and Vieta [2], disclose that cooperative has be an extension hand in reach public vulnerable and marginalized. In research ILO [3] and Wulandari, et al., [4] during times of crisis economy cooperative is more organization superior in ability provide field work as well as income continuous for individual and society. The Covid-19 pandemic is one very related issue with economy matter. This caused because pandemic is phenomena that are not unexpected. Research conducted by Baldwin [5] and Hossain [6].

The Ministry of Cooperatives and SME Republic of Indonesia mention growth cooperatives in Indonesia enough significantly, in 2020 Indonesia has amount cooperative active as much 127.124 units with amount member as much 25,098,807 people. Amount This experience increase compared 2019 year only as many as 123,048 units. Until 2021, cooperative experience increasing although no significant. In 2021 the amount cooperative active in Indonesia is as many as 127,846 units with amount member as much 27,100,372 people and cooperatives profit which reached IDR 7,179,193,890 million.

If see co-op at the time pandemic tend increase from 2017 and 2019 before exists the Covid-19 pandemic. The remaining operating results are income net owned by a useful cooperative for increase well-being member cooperative. Cooperatives in Indonesia are capable survive and survive Keep going running at the moment Covid-19 pandemic. This caused various factor, that cooperative is alternative in circumstances crisis global economy because managed in a manner democratic and social capital that it has by cause [7,8]. That cooperative can run their business units although in circumstances crisis. Research conducted by Jia et al., [9] when there is threat or happening One disturbance that causes the disturbance activity cooperative hence social capital will can become facilitation recovery from incident.

High social capital factor the Then will form influence income cooperatives (Hickel, 2017). as for Factors that have influence to that is external capital factor, business volume factor, own capital factor and factor amount member cooperative own influence especially in management and sustainability cooperatives [10] for filling the gaps in the research that has been done mentioned study This will see How influence factors on to when before and when happening the Covid-19 pandemic in cooperatives in Indonesia.

2. MATERIALS AND METHODS

Cooperative own principle that happened from principles identity, dual identity Rockdale Apart it's a business model cooperative own motivation membership voluntary and open, control democratic members, participation economy participants, autonomy and independence, education training and information, cooperation between cooperative, care against each other [11].

The cooperatives profit is earned income from one year book reduced costs, depreciation, as well obligation others in it covers tax in year book concerned This will do distribution to members cooperative that distribution than based on the first. capital based services member cooperative as owner of capital, second on service business distribution This based on members cooperative is owner as well as customer in use service business [10].

This study is quantitative research, using multiple linear regression test and paired T-test using SPSS software. Multiple linear regression test is a statistical data analysis technique used For study connection a number of variable with assumption test stage that is normality with results kolmogorov-Sminov > 0.05, the model is normally distributed, multicollinearity can see from the value of Variance Inflation Factor (VIF) < 10 then variable free from multicollinearity, heteroscedasticity If Glejser test results are > 0.05 no happen heteroscedasticity [11]. Pairet test T-test is a different test two sample pair, sample in pairs are same subject However

experience different treatment the results of this test can look at the results mark Significance (Sig) if test results <0.05 then the influence that occurs by the variable free to variable bound [11].

3. RESULTS AND DISCUSSION

3.1 Assumption Test Classic

Normality Test. Analysis Results mark *Monte Carlo Sig. (2-tailed)* > 0.05, so can concluded that data in study. This has normally distributed for 2019 data then a data analysis for 2021 is known that mark *Monte Carlo Sig. (2- tailed)* > 0.05, so can concluded that data in study This has normally distributed

Heteroscedasticity Test. From the results of the data test in 2019, the value of *Sig.* all variable free respectively 0.430, 0.377, 0.088 and 0.515. based on criteria decision if mark *Sig.* > 0.05 then no happen problem heteroscedasticity for 2021 data test results *Sig.* Value all variable free each of 0.255, 0.121, 0.753 and 0.122 based on criteria decision if mark *Sig.* > 0.05 then No happen problem heteroscedasticity

Multicollinearity Test. Following Multicollinearity test results of data in 2019 Regression model in research This No happen multicollinearity on variables free Because all VIF value < 10 and *tolerance* > 0.10. data analysis in 2021 Regression models in research this no happen multicollinearity on variables free because all VIF value < 10 and *tolerance* > 0.10.

3.2 Statistical Test

F Test. Results of the calculations obtained from Test F test for 2019 data Known mark F_{count} of 175,190 and value F_{table} of 1,836 so mark F_{count} (175,190) > F_{table} (1,836) and value *Sig* (0.000) < α(0.05). So that can result that variable free in a manner simultaneous influential to variable bound (Y). Then data for 2021 is known mark F_{count} of 3,734 and value F_{table} of 1,836 so mark F_{count} (3,734) > F_{table} (1,836) and value *Sig* (0.014) < α(0.05). So that can result that variable free in a manner simultaneous influential to variable bound (Y).

T Test. This test is carried out using a comparison of the $_{calculated}$ t value and tables

measured by *the rule of thumb.* Following results calculations obtained: Based on the results analysis obtained mark t_{count} (-3.971) > table (2.03) or mark *Sig* (0.000) < α(0.05), meaning that it is partially present significant influence between amount member to cooperatives profit. From the results analysis obtained mark t_{count} (5.965) > table (2.03) or mark *Sig* (0.000) < α (0.05), meaning that it is partially present significant influence between own capital to cooperatives profit. From the results analysis obtained mark t_{count} (1.357) < table (2.03) or mark *Sig* (0.185) > α(0.05), meaning in a manner Partial No there is significant influence between outside capital to cooperatives profit. From the results analysis obtained mark t_{count} (0.761) < table (2.03) or mark *Sig* (0.453) > α (0.05), meaning that it is partially absent significant influence between business volume to cooperatives profit.

Based on the results analysis obtained mark t_{count} (0.470) < table (2.03) or mark *Sig* (0.642) > α(0.05), that is in a manner Partial No there is significant influence between amount member to cooperatives profit. From the results analysis obtained mark t_{count} (0.426) < table (2.03) or mark *Sig* (0.673) < α(0.05), meaning in a manner Partial No there is significant influence between own capital to cooperatives profit. From the results analysis obtained mark t_{count} (-1.456) < table (2.03) or mark *Sig* (0.156) > α (0.05), meaning in a manner Partial No there is significant influence between outside capital to cooperatives profit. From the results analysis obtained mark $t_{arithmetic}$ (3.321) > table (2.03) or mark *Sig* (0.453) > α(0.05), meaning that it is partially present significant influence between business volume to cooperatives profit.

3.3 Regression Model Results

Coefficient determination aim for measure percentage influence variable independent to variable dependent in unit percent. Coefficient test results determination is as following: The results of the 2019 data analysis show R Square value of 0.960 (96%), meaning variable cooperatives profit influenced by variables researched free. The results of the 2021 data analysis show that the R Square value is 0.880 (88%), meaning variable cooperatives profit influenced by variables researched free.

Table 1. Analysis Test Regression Double 2019

Model	Unstandardized Coefficients		Standardized Coefficients	Q	Sig.
	B	**std. Error**	**Betas**		
1　(Constant)	37,532	15,952		2,353	.026
Amount Member	-.239	.060	-.515	-3,971	.000
Own Capital	.278	047	.971	5,965	.000
Outside Capital	.067	.049	.289	1,357	.185
Business Volume	039	051	.216	.761	.453

Source: Results of data analysis using SPSS, 2022

Based on results regression, got obtained equality regression:

Y = 37.352 – 0.239 X1 + 0.278 X2 + 0.067 X3 + 0.039 X4 + e

The resulting coefficient value of -0.239, that is every enhancement amount member by 1% then will lower cooperatives profit as big -0.239. The resulting coefficient value by 0.278, that is every increase in own capital by 1% then will increase cooperatives profit as big 0.278. The resulting coefficient value of 0.067, that is every increase in outside capital by 1% then will increase cooperatives profit as big 0.067. The resulting coefficient value by 0.039, that is every increase in business volume by 1% then will increase cooperatives profit as big 0.039.

Based on results regression above, got obtained equality regression:

Y = 42.194 + 0.041 X1 + 0.026 X2 - 0.080 X3 + 0.198 X4 + e

The resulting coefficient value by 0.041, that is every enhancement amount member by 1% then will raise cooperatives profit as big 0.041. The resulting coefficient value by 0.026, that is every increase in own capital by 1% then will increase cooperatives profit as big 0.026. The resulting coefficient value by -0.080, that is every increase in outside capital by 1% then will lower cooperatives profit as big - 0.080. The resulting

coefficient value by 0.198, that is every increase in business volume by 1% then will increase cooperatives profit as big 0.198.

3.4 Paired T-test

The results of the data analysis show sample t test results in pairs as following:

Business Volume Variable. The results of the Paired Sample T-test then obtained results that t count smaller from Table 3 namely -2.049 < 1.69236 and Sig. (2 tailed) = 0.048 < 0.05. So got concluded there is difference in business volume before and after covid-19 pandemic. This difference caused by impact from the Covid-19 pandemic that caused increase in sales product goods and services remember when the pandemic took place public experience decline income caused by it later lockdown policy. This resulted public will look for alternative income for support life they aligned with That research conducted Mgema, et. Al. [12] explains that exists increase in volume of business save borrow during the Covid - 19 pandemic matter. This is impact social as well as the economy felt by the community. Increase in business volume during the pandemic no always bring impact positive because deep research conducted by ESRF [13] during the Covid - 19 pandemic there is depreciation return loan matter because public experience decline income house ladder so that experience difficulty in pay return loan.

Table 2. Analysis test regression double 2021

Model	Unstandardized Coefficients		Standardized Coefficients	Q	Sig.
	B	**std. Error**	**Betas**		
1　(Constant)	42,194	28,662		1,472	.152
Amount Member	041	088	091	.470	.642
Own Capital	.026	061	.097	.426	.673
Outside Capital	-.080	055	-.356	-1,456	.156
Business Volume	.198	.060	1,098	3,321	002

Source: Results of data analysis using SPSS, 2022

Table 3. Tests from the paired T-Test in 2019 and 2021

		Q	Df	Sig. (2-tailed)
Pair 1	TotalMembers2019 - TotalMembers2021	-2.05	33	0.048
Pair 2	ModalSelf2019 - ModalSelf2021	-2.62	33	0.013
Pair 3	ModalOutside2019 - ModalOutside2021	-2.65	33	0.012
Pair 4	BusinessVolume2019 - BusinessVolume2021	-2.49	33	0.018

Source: Results of data analysis using SPSS, 2022

Own Capital Variable. The results of the Paired Sample T-test then obtained results that t count smaller from Table 3 namely -2.623 < 1.69236 and Sig. (2 tailed) = 0.013 < 0.05. So got concluded there is differences in own capital before and after covid- 19. From the results found that there is difference during a pandemic own capital variable no significant influence to income cooperative matter. This can influence by various factor like lack income from member so that cause member No can donate income they to cooperative. In research conducted by Saul [8] explains that exists difficulty in a manner economy in society moment happen pandemic so that cause decline income in a manner house stairs, so need do savings on variety line economy the cause is member disturbed in the distribution process product.

Outside Capital Variable. The results of the Paired Sample T-test then obtained results that t count smaller from Table 3 namely -2.648 < 1.69236 and Sig. (2 tailed) = 0.012 < 0.05. So got concluded there is difference in outside capital before and after covid-19. From the results This showing under the difference that occurred before pandemic happen that outside capital own influence to income cooperative however not significant whereas moment happen pandemic influence of outside capital tend not influence and not significantly on income cooperative. In research conducted by Baicu et al, [14] that pandemic give impact negative on the sector finance especially in fields sale stocks and investments so that this cause outside capital will give less impact significant to cooperative remember exists the advantages that cooperatives will reduce for do the return on capital. Naturally matter This will influence dividends to be accepted by members so that will give subtraction dividends earned by members matter. This is given impact pandemic disturbing the way operation performance company [15].

Total Member Variable. The results of the Paired Sample T-test then obtained results that t count smaller from Table 3 namely -2.486 < 1.69236 and Sig. (2 tailed) = 0.018 < 0.05. So got

concluded there is difference amount member before and after covid-19. Results show that at the moment pandemic amount member cooperative not influential relationship to income cooperative tend showing negative result matter This various thing one of them lack of social capital objective economic, cultural and social together [16]. The results research at the time pandemic showing that amount member own positive relationship to income cooperative matter This matter caused circumstances moderate economy down each other help cooperation through formation network or connection [2] for reach objective economy together [16-19]. It can give encouragement income in cooperatives that accommodate members.

4. CONCLUSION

In this research, the results analysis showing is a difference in business volume, own capital, outside capital and amount members in Indonesia cooperative before and after covid-19 pandemic. The business volume and outside capital is influential positive and no significant to cooperative profit in Indonesia. Own capital before covid-19 pandemic is influential positive and significant, but after covid-19 pandemic no significant to cooperative profit in Indonesia. Before covid-19 pandemic, amount member is influential negative and significant to cooperative profit, but after covid-19 pandemic matters positive and no significant.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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