

JURNAL
EKONOMI
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TERAPAN

Trade-Environment Triangle in Indonesia: Ecological Footprint Approach
Kuratul Aini, Djoni Hartono

The The Relationship Between Fiscal Policy And Civil Liberty On Per Capita GDP In
Indonesia During 1980-2018
Vita Kartika Sari, Malik Cahyadin

The Effect Of Fiscal Decentralization On Economic Growth: A Study Of The Province Level In Indonesia
Setyo Tri Wahyudi, Lutfi Kurniawati

The United States' Monetary Policy Spillover Effect Against Rupiah -Us Dollar
Exchange During Usa - China Trade War
Andryan Setyadharma, Anisa Rahmawati, Anisa Rahmawati

The Effect of Banks and Cooperatives in Improving Welfare
Inayati Nuraini Dwiputri, Lustina Fajar Prastiwi, Grisvia Agustin

Middle Income Trap In A Macroeconomic Perspective A Case Study In Indoensia
Apip Supriadi

Impact Of Rural Development Program On Agriculture Production and Rural-Urban Migration In Indonesia
Murjana Yasa, Wayan Sukadana, Luh Gede Meydianawathi

Affecting FactorsTrans Land Function In Bali
I Wayan Sudemen, I Ketut Darma

Social And Financial Efficiency Of Lembaga Perkreditan Desa
Kajeng Baskara

The Role of Social Capital with Local Wisdom in Household Food Security in Bali Province
Putu Ayu Pramitha Purwanti, Ida Ayu Nyoman Saskara

The General Allocation Fund (DAU) Formulation Policy: Incentives or
Disincentives to the Fiscal Independence of Local Governments
Kun Haribowo, Latri Wihastuti

The Effect of Banks and Cooperatives in Improving Welfare

ABSTRACT

The use of cooperative credit in Indonesia is considered one of Indonesia's supporting economies. Generally, banks in Indonesia have a lower interest rate than cooperative loans. This study wants to identify the impact of cooperative credit on public welfare compared to bank loans. This study uses Indonesian Family Life Survey (IFLS) data with a regression analysis of fixed-effect methods at the village level. The results showed that the role of cooperative and bank credit did not have a significant difference in improving people's welfare. Cooperatives have an essential role in improving people's welfare as well as the bank. The higher the amount of credit taken; the more positive effect is on improving people's welfare. The use of credit for productive purposes also has a more positive influence on improving people's welfare than consumer credit.

Keywords: cooperative, credit, interest rate, welfare

JEL Classification: F63, F61, G18, G21

ABSTRAK

Penggunaan kredit koperasi dianggap sebagai salah satu penunjang perekonomian Indonesia. Umumnya bank-bank di Indonesia memiliki tingkat bunga yang lebih rendah dibandingkan kredit koperasi. Penelitian ini ingin mengidentifikasi dampak kredit koperasi terhadap kesejahteraan masyarakat dibandingkan dengan pinjaman bank. Penelitian ini menggunakan data Indonesian Family Life Survey (IFLS) dengan analisis regresi metode fixed-effect di tingkat desa dan rumah tangga. Hasil penelitian menunjukkan bahwa peran koperasi dan kredit perbankan tidak memiliki perbedaan yang signifikan dalam meningkatkan kesejahteraan masyarakat. Koperasi memiliki peran yang sama pentingnya dengan bank dalam meningkatkan kesejahteraan masyarakat. Semakin tinggi jumlah kredit yang diambil dapat meningkatkan kesejahteraan masyarakat. Penggunaan kredit untuk tujuan produktif dapat memiliki pengaruh yang lebih positif terhadap peningkatan kesejahteraan masyarakat dibandingkan kredit konsumtif.

1. Introduction

credit interest rate as a profit and Banks have a crucial role as an intermediary institution that functions as a channel for funds from surplus to deficit units. The existence of a bank is very crucial for the business world and economy. Banks distribute funds in the form of investment and working capital loans through a variety of products. Moreover, banks provide lending to distribute excess funds to deficit units to increase their production activities. In providing loans, the bank charges the

On the other hand, there are microfinance institutions that are legal entities and cooperatives have sufficient flexibility and appropriate with the conditions of Micro, Small Medium Enterprises (SMEs) which have a base kinship. Cooperative has helped people who can not afford and do not understand filing formal credit to the banks. Wassie, Kusakari, and Masahiro (2019), Grashuis and Su

(2018) indicate that cooperatives effectively households to obtain credit can cause credit improved agricultural performance and demand to be inelastic to the interest rate. welfare of their member households. Debela, The existence of credit constraints can Diriba, and Bekeley (2017), Su and Cook trigger the use of credit of cooperatives. (2020) revealed that cooperatives have a Cooperative is one of the financial positive impact on smallholders' income and institutions used long ago by the people of productivity. In addition, cooperatives can Indonesia. Cooperatives implement a higher also reduce the inequality gap (Khafagy, interest rate than bank institutions. It is 2018). In Indonesia cooperative has a great because the risk level of credit repayment of potential in the informal sector particularly¹. cooperatives is greater than that of banks.

The Indonesian economy's great Bank institutions prioritize the 4C potential requires a financial institution as a principles, economic conditions, capacity, bridge that serves as a collector of funds and capital, and collateral in lending, while channels them back to communities for cooperatives emphasize the principles of households financing and improvement of prospective borrowers' character compared social welfare. In general, Indonesia has to other principles. The high risk borne by several levels of society with different the cooperative is compensated with a financial strengths that can lead to the higher interest rate compared to loans by emergence of financial inclusion issues in banks. The difference in interest rates the community. In providing credit to the between cooperatives and banks, this study public, Indonesian banking have 5C aims to identify the role of credit principles, i.e., Capital, Conditions of the cooperatives in improving society's welfare economy, Collateral, Capacity, and compared to the credit by banks. This study Character. Therefore, financially vulnerable takes the period after the economic recession people will be challenging to meet the five in Indonesia (1998-1999), to find out the principles (Pradiptyo, Sugiyanto, Sumiyana, impact of cooperatives in restoring the and Dwiputri, 2013). people's economy after a recession in

Bell, Srinivasan, and Udry (1997) particular. This study can be a reference to said that the inability of poor and vulnerable determine the effect of cooperatives on society in efforts to recover from the economic crisis.

¹ The informal sector is a part of the economies of developing countries that have the characteristics of competitive individual or family small business, labor-intensive oriented, the absence of barriers to entry, and with the price of factors and products determined in the market (Todaro and Smith, 2012).

2. Literature Review

agricultural land is often unable to accommodate the obtaining of credit by Carter and Barrett (2006) reveal that poverty and vulnerability correlated with farmers. Agricultural land that is located in asset ownership. Therefore, the vulnerable less strategic areas can lead to formal household has constraint in obtaining bank financial institutions are reluctant to provide credit because banks pay more attention to credit to farmers. In addition, farmers are the 4C principles, while in providing credit, also considered vulnerable in credit cooperatives often prioritize the "character" payments because the agricultural sector's principle of prospective borrowers compare income depends on the season and natural to the other principles. Therefore, conditions, so it is quite vulnerable to crop households that have low financial strength failures—such conditions experienced by will tend to favor the use of credit of Indonesian farmers.

cooperatives in consumption smoothing. In Unease obtaining credit for low and the implementation, formal (bank) credit and vulnerable households may lead to demand non-formal (cooperative) credit can be for loans from low and vulnerable complementary or substitute (Madestam, households inelastic to interest rates (Bell, 2014). Therefore, formal and cooperative Srinivasan, and Udry; 1997). Therefore, the credit can have the same role in the farming communities need to be supported improvement of public welfare. in gaining access to government credit

In the case of companies, both small because access to credit have been able to and large companies, Lahiri and Tian (2013) help farmers to improve their welfare found that small firms in India have a higher (Ogundeji, Donkor, Motsoari, and Onakuse; level of dependence on trade credit than 2018)².

larger companies because the collateral Besides collateral, the area's factor is the main cause of credit constraint condition in a rural or urban, the procedure on the company. It is not much different of credit, loan period, and loan interest rates from Indonesia's conditions, where the also can affect the credit constraint (Chandio Indonesian SMEs also have the problem of and Jiang, 2018). The study found that collateral to get formal credit. Thus, SMEs education level, and age of farmers in will use credit cooperatives as an alternative. Pakistan can be a decisive determinant of

Gaisina (2011), Sanchis-Palacio and credit constraint. However, providing credit Melian-Navarro (2011) found that in the for households is important, because so far it agricultural sector, collateral in the form of

² Studies on farmers in Lesotho

is known that the use of credit both for spread of inclusive finance through consumption and for production can affect cooperatives has a significant positive effect on improving social welfare. on rural development, especially women,

The phenomenon of the use of non- children, minorities, very poor families, and formal credit has fueled research related to victims of natural disasters.

the impact of the use of non-formal credit on The provision of credit by the level of social welfare. Kaboski and cooperative can improve the welfare of the Townsend (2012), Khandker (2005), community. In Indonesia, there are two Langley (2014) found that the use of non- credit distribution schemes namely formal formal credit by the poor and vulnerable credit by banks and non-formal credit by households could influence the level of cooperatives, as institutions that have been social welfare in reducing poverty and considered to have contributed to the helping the local economy. More research is people's economy. However, in its Kaboski and Townsend (2012), Angeles implementation, cooperatives have higher (2015) found that the provision of credit can interest rates than banks. Thus, this study boost consumption, improve investment in aims to identify the effect of using agriculture, and increase revenue. Gertler, cooperative credit on the welfare of Legine, and Moretti (2009), Kaboski and households compared to the use of bank Townsend (2011) also found that the credit.

villagers' credit provides some expected **3. Methods**

benefits to the economy. The method of analysis carried out

Setyari (2012) suggests that the use by directly comparing bank credit users and of micro-credit by Indonesian households cooperatives can lead to selection bias. can increase per capita expenditure and the Selection bias can arise because the user of number of household members who work cooperative credit are households or compared to families who do not get credit. individuals who may not have an access to Lal (2017), Schmidt (2016) states that bank credit because customers cannot meet financial inclusion through cooperatives has the requirements for obtaining bank credit or a direct and significant impact on poverty because of different community preferences alleviation, where basic financing such as for banks and cooperatives. These savings, insurance, and credit through preferences are time-invariant and inclusive finance has a positive impact. In unobserved characteristics that can affect the further research, Lal (2018) states that the outcome. Another bias that can arise is the

difference in the availability of banks and/or period t. $D_Cooperative$ is a dummy cooperatives within a region. Refers to variable. Dummy 1 is households who use Dwiputri (2017), in an effort to eliminate the cooperative credit, and Dummy 0 for bias, this study uses the fixed-effect method households using bank credit. Control at the village level to identify the effect of variables represented by the variable the differences of using credit from characteristics of the household (X_{ijt}), cooperatives or banks on changes in variable characteristics of credit (Y_{ijt}), and Indonesian household welfare. variable $D_Residence$ consisting of dummy

This study proxied welfare variable 1 is a household residing in the village, and as household consumption (C_{it}). The dummy 0 is a household residing in urban outcome to be observed is the change of areas. Variable μ_j is a fixed effect at village food, non-food consumption, and total per level. While variable v_{ijt} is an error term. capita consumption related to the effect of Error term to be assumed uncorrelated with the use of cooperative credit were compared the variable Cooperative, after being with bank credit. To identify the impact of controlled by the village fixed effect cooperatives in improving people's welfare estimation. Therefore, the model has been especially after the 1998-1999 recession, free from potential bias that would be this study uses IFLS data to estimate appeared. According to Wooldridge (2003), changes in consumer spending when village and household characteristics are households use cooperative credit in period unobserved, and time-invariant in 1 (IFLS 3, year = 2000), and in the period 2 influencing consumption will not cause bias (IFLS 4, year = 2007). Therefore, this in the estimation process with the technique research using panel data with two periods of the village fixed effects.

of 2000 and 2007. However, this study can identify differences in the effect of the use of cooperatives and banks credit on the welfare of Indonesian society. The model is as follows.

$$C_{ijt} = \alpha_0 + \beta_1 D_Cooperative + \beta_2 Time + \beta_3 X_{ijt} + \beta_4 D_Residence + \beta_5 Y_{ijt} + \mu_j + v_{ijt} \dots$$

1)

C_{ijt} is a variable that declared the consumption of household i, village j, and

4. Results and Discussion

The sample of panel data for IFLS3 and IFLS4 is 1455 households which are households who cooperative credit or bank credit users. From the descriptive analysis, it can be known that the average age of household head who uses cooperative credit is approximately 48 years, while the level of education on average is that of have graduated from junior high school. The

average periods of cooperative credit taken The number of households that use bank is 16 months with an average credit amount credit for consumption is also higher than of IDR. 2,019,300 (the real value in year the number of households that use bank 2000). The number of households that use credit for productive purposes. Meanwhile, cooperative credit for consumptive purposes the average age of household head of bank is higher than the number of households that credit users approximately 46 years with an use cooperative credit for productive average education level of the household purposes. head is Junior High School. Furthermore, an

The data showed that the bank credit estimate of the difference in the effect of period taken on average is approximately 13 using cooperative credit compared to bank months with an average credit amount is credit is carried out on the sample. The IDR. 2,007,300 (the real value in year 2000). results of the analysis using a fixed effect This value is not much different from the regression method at the village level are characteristics of the cooperatives' credit. shown in the following table.

Table 1. Impact of Cooperative Credit to the Food Consumption Expenditure in Households (real ln_consumption, the base year 2000) Panel Data

Variables	Consumption of Food			
	(1)	(2)	(3)	(4)
Credit characteristics:				
The use of cooperatives credit (1 = use cooperatives credit)	0.0435	0.1279 *	0.1215	0.1271
The number of credits, in thousand Rupiahs (Ln)		0.0772 ***	0.0796 ***	0.0755 ***
Credit period (months)			-0.0004	-0.0004
The purpose of credit (1 = Productive)				0.0422
Household characteristics:				
The age of household head (years)	0.0030 **	0.0019	0.0019	0.0028 *
The gender of household head (1=male)	0.1257 **	0.1320 **	0.1329 **	0.1429 ***
The number of household members	0.0607 ***	0.0611 ***	0.0610 ***	0.0611 ***
The education of household head (years)	0.0356 ***	0.0248 ***	0.0249 ***	0.0263 ***
Characteristics of residence:				
Residence (1 = village)	-0.0303	-0.0433	-0.0422	-0.0470
D_Time (1 = period of year 2000)	0.0826	-0.0318	-0.0252	-0.0253
R² (%)	18.71	23.19	23.26	23.57
N	1,455	1,455	1,455	1,415

Note: ***: significant at $\alpha = 1\%$; **: significant at $\alpha = 5\%$; *: Significant at $\alpha = 10\%$

The age of household head, the male income and welfare. From the analysis, it household head, the number of family can be seen that there are no difference in members, and the education of the food consumption expenditures between household head have a positive effect on households that use bank/cooperative credit food consumption expenditure. who live in villages or urban areas.

Nevertheless, the significance of the effect By considering the goodness of fit in of the age variable varies for each model. the results of regression analysis in Table 1, The more family members, the higher the it can be concluded that in general, the food expenditure because it is associated impact of using cooperative credit does not with a higher level of need. Male family have a significant difference with bank heads have a higher level of food credit on household food expenditure. The consumption expenditure than female family significant variable effect the food heads. This is because in general, the consumption is the amount of credit. The family's income comes from the two adults amount of credit taken has a significant in the household, namely mother and father positive effect on household food in the family. Meanwhile, for households consumption expenditure. It shows that the with female household heads, the main greater amount of credit, the higher the food family income is only come from the consumption expenditure. It means that the mother. amount of credit can have a significant

The education of the household head positive effect on improving people's has a significant positive effect on food welfare. Meanwhile, the credit period does consumption expenditure. Following the not have a significant effect on household theory of economic growth, a higher level of food consumption expenditure. The purpose education has a higher probability of earning of taking credit for both productive and a higher income (Emiko, 2010). Duflo consumptive does not have a significant (2001) revealed that the program of effect on food consumption expenditure of education in Indonesia was able to increase household.

Table 2. Impact of Cooperative Credit to the Non-food Consumption Expenditure in Households (real ln_consumption, the base year 2000) Panel Data

Variables	Consumption of Non-food			
	(1)	(2)	(3)	(4)
Credit characteristics:				
The use of credit cooperatives (1 = use credit cooperatives)	-0.2390 **	-0.0633	-0.0833	-0.0813
The amount of credits, in thousand Rupiahs (Ln)		0.1607 ***	0.1682 ***	0.1607 ***
Credit period (months)			-0.0015	-0.0014
The purpose of credit (1 = Productive)				0.0757
Household characteristics:				
The age of household head (years)	0.0025	0.0002	0.0003 ***	0.0008
The gender of household head (1=male)	0.0302	0.0434	0.0460	0.0416
The number of household members	0.0773 ***	0.0782 ***	0.0779 ***	0.0764 ***
The education of household head (years)	0.0712 ***	0.0486 ***	0.0491 ***	0.0518 ***
Characteristics of residence:				
Residence (1 = village)	-0.0637	-0.0908	-0.0872	-0.0997
D_Time (1 = period of 2000)	0.4107 ***	0.1722 **	0.1930 ***	0.1814 **
R2 (%)	25.52	33.14	33.29	33.15
N	1,455	1,455	1,455	1,415

Note: ***: significant at $\alpha = 1\%$; **: significant at $\alpha = 5\%$; *: Significant at $\alpha = 10\%$

the use of cooperative credit has a

From the analysis, it can be seen that more negative effect than the use of bank the household characteristics which have a credit to non-food expenditure. However, significant positive effect on non-food Model 2, 3, and 4 show insignificant effects. expenditures are the number of household It means that the effect of that variable is not members and education level of the robust. The results of the analysis concluded household head, as well as in the analysis of that cooperative credit have an insignificant household expenditure on food. The amount effect to non-food spending of the of credit taken has a significant positive household. Variable that can affect the non-effect on the spending of the non-food food consumption is the amount of credit. households. Model (1) Table 2 shows that

Table 3. Impact of Cooperative Credit to Total Consumption Expenditure of Household (real ln_total consumption, base year 2000) Panel Data

Variables	Total Consumption			
	(1)	(2)	(3)	(4)
Credit characteristics:				
The use of credit cooperatives (1 = use credit cooperatives)	-0.0933	0.0352	0.0225	0.0287
The amount of credits, in thousand Rupiahs (Ln)		0.1175 ***	0.1222 ***	0.1153 ***
Credit period (months)			-0.0010	-0.0009
The purpose of credit (1 = Productive)				0.0709 *
Household characteristics:				
The age of household head (years)	0.0028 *	0.0011	0.0011	0.0018
The gender of household head (1=male)	0.0932	0.1029 *	0.1045 *	0.1080 **
The number of household members	0.0688 ***	0.0694 ***	0.0692 ***	0.0686 ***
The education of household head (years)	0.0520 ***	0.0355 ***	0.0359 ***	0.0380 ***
Characteristics of residence:				
Residence (1 = village)	-0.0417	-0.0615	-0.0592	-0.0679
D_Time (1 = period of 2000)	0.2273 ***	0.0530	0.0662	0.0589
R2 (%)	25.72	33.15	33.31	33.49
N	1,455	1,455	1,455	1,415

Note: ***: significant at $\alpha = 1\%$; **: significant at $\alpha = 5\%$; *: Significant at $\alpha = 10\%$

Table 3 shows that size of the household members and level of education of household head have a significant positive effect on total consumption. The amount of credit taken has a significant positive effect on total household consumption expenditure. Credit taken for productive purposes has a positive

significant 10% to total household expenditure. Table 3 concludes that cooperative credit has an insignificant effect to total expenditure of households. The variable has a significant effect to total consumption is the number of credits.

Table 4. Impact of the Use of Cooperatives Credit to per Capita Consumption of Households (real ln_konsumsi 2000) Panel Data

Variables	Per Capita Consumption			
	(1)	(2)	(3)	(4)
Credit characteristics:				
The use of credit cooperatives (1 = use credit cooperatives)	-0.0270	0.0941	0.0809	0.0929
The number of credits, in thousand Rupiahs (Ln)		0.1108 ***	0.1158 ***	0.1093 ***
Credit period (months)			-0.0010	-0.0009
The purpose of credit (1 = Productive)				0.0860 **
Household characteristics:				
The age of household head (years)	0.0069 ***	0.0053 ***	0.0054 ***	0.0062 ***
The gender of household head (1= male)	-0.0708	-0.0616	-0.0600	-0.0605
The number of household members	-0.0645 ***	-0.0639 ***	-0.0641 ***	-0.0632 ***
The education of household head (years)	0.0535 ***	0.0379 ***	0.0383 ***	0.0398 ***
Characteristics of residence:				
Residence (1 = village)	-0.1458 **	-0.1644 **	-0.1620 **	-0.1391 *
D_Time (1 = period of 2000)	0.0324	-0.1319 **	-0.1182 **	-0.1224 **
R2 (%)	21.98	28.70	28.88	28.89
N	1,455	1,455	1,455	1,415

Note: ***: significant at $\alpha = 1\%$; **: significant at $\alpha = 5\%$; *: Significant at $\alpha = 10\%$

The level of welfare can be measured by the amount of expenditure per capita. Therefore, the study should identify the impact of cooperative credit on consumption per capita to test the robustness as well as study of Dwiputri, Pradiptyo and Arsyad (2019), and Dwiputri, Arsyad & Pradiptyo (2018). Table 4 shows that the use of cooperative credit does not have a significant effect to amount of per capita expenditure in the household. The variables that are positive and significant in influencing per capita expenditure are age of the household head, size of household members, as well as the educational level of the household head. Urban households have significantly higher per capita consumption than households who live in rural. It shows that the level of urban household welfare is better than rural household if viewed from the perspective of per capita income. Additionally, per capita consumption of the households in 2007 was significantly higher than in 2000. It shows that the level of community welfare is increasing over time. Characteristics of credit variables that have a significant positive effect on per capita household expenditure are the amount

of credit and the intended use of credit. The productive has a more positive effect than higher the number of credits would increase credit for consumptive purposes. per capita expenditure significantly. The use Cooperatives and banks have not of credit for productive purposes can also significantly different roles in enhancement significantly increase per capita expenditure the community prosperity. Cooperatives and compared to consumption credit. banks have the same effect on the food, non-

From the analysis in Table 1, 2, 3, food, total, and per capita consumption of and 4, generally it can be concluded that the households in Indonesia. The results showed use of cooperatives or banks credit does not that the higher number of credits taken, the differ significantly affects to the level of more positive effect on the improvement of welfare. the finding suggests that the public welfare. In addition, the purpose of contribution of cooperatives to the credit used to productivity has a positive betterment of society can be equalized to a effect in enhancement the welfare of society bank, however, the interest rate of than consumption credit.

cooperative credit is higher than a bank. The **5. Conclusion**

difference in interest rates between banks Cooperative credit has an and cooperatives in Indonesia is not insignificant effect to food consumption, significant in improving people's welfare. non-food consumption, total expenditure, Pradiptyo, Sugiyanto, Sumiyana, and and consumption per capita. Variable which Dwiputri (2013) found that the interest rate has a significant effect to food consumption, of cooperatives in Indonesia generally was non-food consumption, total expenditure, around 20-25%, while bank interest rate and consumption per capita is the amount of approximately 9-12%. However, banks and credit. Banks and cooperatives have the cooperatives have different target markets. same effect on improving welfare. Both

Cooperatives tend to serve non- have their respective advantages where bank bankable communities. In their loan has a lower interest rate than cooperative. activities, several cooperatives use the funds On the other hand, cooperative have a close they credit from the bank. Therefore, banks relationship with the public because those and cooperatives have a unique partnership. who are non-bankable will use cooperatives Other findings are the more amount of credit to make loans. Cooperatives target non- is provided to the community, the higher bankable communities, and several effect of improving people's welfare. The cooperatives use bank service facilities in credit period has no significant effect on savings and loan operations. Therefore, improving people's welfare. Credit aimed to banks and cooperatives have a unique

relationship in improving community welfare. Further research can be done is identifying the effect of sharia loans on the betterment of society.

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