



## Prediction of Cooperative Tax Avoidance and Financial Strategy

Sugiyanto<sup>1\*</sup>, Lely Savitri Dewi<sup>2</sup>

<sup>1,2</sup> Faculty of Economic and Business, Indonesia Cooperative University, Bandung, Indonesia

\*Corresponding author email: [giyant2000@ikopin.ac.id](mailto:giyant2000@ikopin.ac.id)

---

### Abstract

One of the problems faced by cooperative managers is related to tax compliance, on the other hand, it is related to the ability to increase cooperative surplus that can be used for reinvestment, dividends, and other social funds. Conflicts of interest are faced by management as agents of cooperative members and also tax authorities. This study aims to predict tax avoidance by using operating efficiency, capital intensity and leverage variables as the basis for formulating tax planning strategies that can be carried out by cooperative managers. The research uses descriptive quantitative and regression analysis to predict the independent variables that determine tax avoidance. The results showed that only two independent variables were significant to predict tax avoidance, namely operating efficiency, and leverage. While capital intensity is not significant. The strategy that must be set by cooperative managers by utilizing the two significant variables to conduct tax planning through tax avoidance.

*Keywords: Prediction of Tax Avoidance, Operating Efficiency, Capital Intensity, Leverage and Financial Strategy.*

---

### 1. Introduction

Cooperatives as one of the business actors in Indonesia have the same obligations in contributing to the state. Article 2 paragraph 1 (b) of Law of the Republic of Indonesia No. 36 of 2008 concerning the Fourth Amendment to Law No. 7 of 1983 concerning Income Tax, states that cooperatives are one of the taxpayers, including collecting or deducting certain taxes. Taxes paid by entities or individuals as a contribution to national development, which is needed to build public facilities such as infrastructure, health, education, security and so on. Nationally, taxpayer compliance is still low, this condition is a challenge for tax authorities.

The contribution of cooperatives as taxpayers amounted to IDR 5.7 Trillion in 2018, an increase compared to the previous year, 2017 of IDR 4.4 Trillion and 2016 of IDR 3.4 Trillion. (Ministry of Cooperatives and SMEs, 2019). Compared to the total state revenue from taxes, the contribution of cooperatives is still very small, still far from the government's target in 2020 the amount of the state revenue budget sourced from taxes of IDR 1,786.4 trillion. Whereas nationally the number of active cooperatives is 123,048 units with 22,463,738 members.

This situation is caused by cooperative compliance in tax payments, especially corporate tax, many cooperatives are doing business with a limited business scale, the government provides tax relief for businesses with turnover below Rp. 4.8 billion subject to a final 0.05% tax on turnover. Many experts and cooperative actors state that cooperatives do not need to pay taxes on surpluses, because their services to members and their business orientation are not *profit oriented* but *service oriented* or member services (Sugiyanto & Rahayu, 2019) and (Sugiyanto et al., 2021).

The purpose of cooperatives is to improve the economic welfare of members, not least by setting better prices for its members, selling to members cheaper and buying from members more expensive. The surplus (remaining results of operations = SHU) of the *cooperative* must be understood as the efficiency of operating costs, in accordance with the opinion of Roy, (1981) *Cooperative operated at cost*. Thus the cooperative surplus obtained is relatively small. Based on data from the Ministry of Cooperatives and SMEs (2020), the cooperative *Profit Margin* in 2019 was only 4.15% and the *Return on Asset Ratio* was 3.25%.

Tax on pre-tax surplus is an additional burden that will reduce the member's share of surplus. The amount of tax payment is directly related to the amount of pre-tax surplus earned. Cooperative surplus is not only influenced by services, basic expenses, operational and organizational costs (cost efficiency), depreciation due to the use of fixed assets (intensity of asset use) and interest expenses because the cooperative has loans (*leverage*). *Tax avoidance* is understood as an attempt to avoid taxes legally by utilizing information in the calculation of profit and loss or in cooperative surplus calculations. Tax avoidance carried out as an effort to increase the net surplus of the cooperative.

Cooperative management is faced with different interests, to the owner, management must show its achievements in improving the welfare of members by obtaining a surplus. On the other hand, management must also deal with the government, which requires every business entity to always comply with contributing to state revenue, through tax payments.

This difference in interests encourages cooperative management to carry out financial strategies to make savings on its tax obligations through tax planning such as tax *avoidance*. Tax planning as a legal strategy with the aim of reducing the amount of tax to be paid (Koming Ayu Praditasari & Ery Setiawan, 2017). On the other hand (Putri R.T. et al., 2019), states that the government often provides dispensation for postponement of tax payments due to the large number of mandatory payers who postpone payments.

In practice, *tax avoidance* involves various parties, which can result in conflicts of interest, this is in accordance with research which states that tax *avoidance* is related to the application of agency theory, there is a conflict of interest between managers, tax executors and investors (Putra et al., 2018). Cooperative management as an *agent* to realize the prosperity of the owner (member), on the other hand the manager is obliged to pay taxes, which will have consequences for the reduced surplus that can be distributed as dividends to its members.

Surplus as cooperative profitability is one measure of success, which is distributed to reduce agency conflicts between owners and management (Park, 2009). While another opinion states that "Dividend payments can also reduce agency conflicts between internal and external parties (Jensen, 1986) (Myers, 2000). In the financial management approach, a strategy is needed by utilizing surplus calculation report data.

Much research on tax avoidance has been conducted on publicly listed companies to examine factors that can be used as a strategy to legally reduce tax payments. This research is conducted on cooperative business entities that have different characteristics from other business entities, for example in terms of orientation, namely service rather than profit, cooperative business is carried out as an effort to promote the economy of its members, where members as owners as well as users of cooperative services. Thus profit, in cooperatives referred to as surplus, is relatively small in value. Under these conditions, does management also still try to utilize the elements in the financial statements to legally reduce tax payments, such as *operating efficiency*, *capital intensity*, *leverage*?

This research is to study whether the variables Operating Efficiency, Capital Intensity, and Leverage can be used to predict Tax Avoidance. Then the prediction results are used to formulate tax planning strategies through tax avoidance in cooperatives.

## 2. Literature Review

### 2.1. Cooperative

Cooperatives are socio-economic systems, both as economic and social institutions, as economic institutions operate as business institutions with efficiency principles, to provide benefits for their members. Members as owners as well as users of cooperative services. Thus the cooperative is service-oriented, not profit. However, it is normal that the efficiency of the cooperative in running its business is measured by the acquisition of surplus. The surplus obtained is distributed to reserves, after which it is distributed to members, manager bonuses and social. Members as owners expect the distribution of this surplus. The performance of cooperative managers is measured, among other things, by the surplus earned. As a social institution: the surplus earned is also a source of funding for social and development activities in its working area.

Understanding cooperatives as economic and social institutions, both must go hand in hand as a characteristic that cooperatives are different from other business entities. Cooperatives are developed based on the identity that has become an international agreement, the cooperative identity was declared by the *International Cooperative Alliance* (ICA) at its congress in Manchester in 1995, in the congress it was mutually accepted that the cooperative identity includes the definition, values, and principles of cooperatives.

Cooperatives can be defined through 3 approaches, first the *essentialist approach* refers to the ICA congress agreement that applies universally, two the *institutional approach*, the definition of cooperatives refers to the applicable laws and three the *nominalist approach*, cooperatives as socio-economic systems (Kaynak, 1985). According to ICA (2001), cooperatives are economic associations of people who unite voluntarily to meet common economic, social, and cultural needs and aspirations through jointly owned and democratically controlled enterprises. According to the Law of the Republic of Indonesia No. 25, Year 1992, concerning Cooperatives, Article 1 Paragraph (1), Cooperative as a business entity consisting of individuals or legal entities Cooperative by basing its activities on cooperative principles as well as the people's economic movement based on family principles.

Cooperative organizations are founded on the ideas and desires of members, owned and managed by members

and the benefits are also for members. This principle is basically a manifestation that cooperatives must be managed democratically, through member meetings as the highest power, to produce decisions that must be carried out by mandated cooperative managers. Every member has the same rights, the right to have an opinion, the right to vote and to be elected as a board member.

The values of cooperative organizations according to the ICA, include: justice, kinship, self-help, responsibility for one's own fate, democratic management of cooperatives, equality and solidarity. While ethically the values that must be upheld by members include: honesty, openness, social responsibility and concern for others. While cooperative principles are used as a *rule of thumb* for business operations). Still according to ICA (2001), these principles include: (1) voluntary and open membership, (2) democratic control by members, (3) economic participation of members, (4) autonomy and freedom, (5) education, training and information, (6) cooperation in cooperatives and (7) concern for the community.

In addition to the two approaches above, according to the *nominalist* approach, cooperatives are understood as socio-economic systems, i.e. organizations that have four main elements (Kaynak, 1985, Ramudi Ariffin, 2013, 25), namely: cooperative groups, self-help motivation, cooperative enterprises and member promotion.

## 2.2. Financial Management Strategy

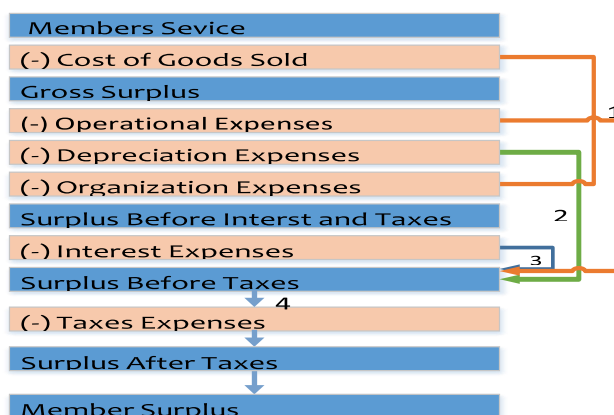
Cooperative management is mandated by the members, to realize its objectives. Members as owners (principal) and management as agents. The position of members in addition to being the owner is also a user of cooperative services (Member Dual Identity) (E, D, 1994). As owners, members want their cooperatives to develop with high efficiency (cooperative efficiency). As users, members expect to get the best service, for example better prices, the best quality, fast service and so on so that members also gain efficiency in their business (Member efficiency). (Kaynak, 1985) states that the purpose of cooperatives to obtain cooperative efficiency and member efficiency. This efficiency can be proxied by the acquisition of surpluses that can be used for reinvestment and shared with members.

In accordance with the topic of this study which relates the relationship between members and management and management with the tax authority, the task of management is to harmonize the two, the relationship between parties is referred to as an agency relationship, by Jensen & Meckling, (1976), called Agency Theory. Furthermore, Eisenhardt (1989) states that this theory can be applied in explaining the contractual between two parties who have interests, while according to Crutchley & Hansen, (1989) in financial management there is a separation between managers and owners of the company. The relationship between owners and management has their own goals, causing conflict.

The possibility of conflict between parties must be balanced with management performance in addition to being measured by services along with achieving business efficiency, cooperative management is also faced with obedience and the obligation to pay taxes. The business efficiency strategy is measured by the surplus achieved, and can be distributed to members, but management is also obliged to pay taxes on business results that will reduce the surplus. Thus, cooperative managers need to arrange tax planning in the form of tax avoidance. Agency conflicts between management and owners can be reduced by dividend policy.

By paying out some cash (Brealey, 2015). Dividend policy is related to the function of financial management to reduce conflicts between managers and owners.

The amount of surplus distributed to the owner is highly dependent on several financial policies in the calculation of profit and loss or surplus in the cooperative. the surplus is obtained from the value of cooperative services minus basic expenses, resulting in gross surplus, minus operating expenses (including depreciation) and organization, resulting in business surplus, minus interest expense, resulting in a surplus before tax, then minus tax resulting in a net surplus which part will be distributed to members. The report on the calculation of cooperative surplus in stages is presented as Figure 1.



**Figure 1:** Stages of Cooperative Surplus Calculation

From Figure 1, it can be explained that:

- a) Operating efficiency (Cost of goods sold, Operating and operating expenses) will determine the value of Surplus before Taxes, as a surplus of tax objects.
- b) Depreciation expenses will determine the value of Surplus Before Taxes.
- c) Interest expenses will determine the value of Surplus Before Taxes.
- d) Taxes value will be determined by surplus before taxes,
- e) Value of surplus after taxes = surplus before taxes - Taxes, and
- f) Member surplus as a part of surplus after taxes,

### 2.3. Tax Avoidance

Tax planning as an effort to save tax payments in the form of tax avoidance or tax evasion. Tax avoidance as a financial manager's tool to save taxes by transferring resources that must be given to the tax authority, but are given to the owner through an increase in profit after tax (Butje & Tjondro, 2014). Another opinion states that tax avoidance is an attempt to reduce the tax burden but without violating the law (Mardiasmo, 2016). Meanwhile, according to (Sugiyanto & Rahayu, 2020) Tax avoidance is a tool for doing tax saving by diverting resources that should be used for countries or given to owners so that the value of earnings before tax decreases, then corporate tax decreases and earnings after tax increases.

One of the practices to save taxes in tax management is done by complying with applicable tax regulations, aka legal. Legal means that tax savings are made by utilizing things that are not regulated by law (loopholes) so that there are no violations. In an organization, it is necessary to implement tax avoidance so that the corporate tax paid to the State is not too large. Besides this, it will also have an impact on increasing the value of the company itself, this is as explained by (Herdiyanto & Ardiyanto, 2015).

Research on tax avoidance is very interesting, especially in the field of financial management, by utilizing income statement information, so that profit before tax can be minimized by means of utilizing applicable policies such as increasing the number of assets owned so that the depreciation expense is getting bigger and increasing debt so that the interest expense is getting bigger, both with the aim of reducing pre-tax profit, the opposite way is also done by management to remain efficient against business expenses. Research related to tax avoidance has been widely conducted, especially in publicly listed companies that are associated with internal management efforts, including by (Brown & Drake, 2014; Anouar, 2017; Ogbeide, 2017; Putri R. T. et al., 2019; Putra et al., 2018).

### 2.4. Operating Efficiency

*Operating efficiency* can be used to measure the level of efficiency of business management. The efficient use of operational costs and expenses is a measure of success assessed by the amount of resources used to obtain certain results. In various types of businesses with diverse activities, the costs are not small. If left unchecked, these costs can have an impact on reducing the *returns* generated (Pancheva, 2013). Therefore, it is necessary to carry out cost efficiency to reduce unnecessary expenses, so that there is no waste of costs (Ross et al., 2012). *Operating ratio* is one of the determining factors of profitability. Therefore, cooperative managers are required to be able to reduce costs incurred to obtain optimal residual operating results. The acquisition of optimal residual income is an indicator of the welfare of its members. So, cooperative managers are required to be able to reduce costs incurred to obtain optimal residual operating results because it is an indicator of the welfare of its members.

### 2.5. Capital Intensity

*Capital intensity* is an important information to measure financial performance because it can show the level of effective use of assets. *Capital intensity* is the amount of capital invested in fixed assets usually measured by the ratio of fixed assets divided by sales (DeFond & Hung, 2003). *Capital intensity* is the composition of assets that have an impact on *tax avoidance*, especially fixed assets that must be allocated in the form of depreciation expense to reduce taxes (Delgado et al., 2014). Meanwhile, according to (Kraft, 2014) *capital intensity* planning increases the opportunity for tax planning strategies through *tax avoidance*.

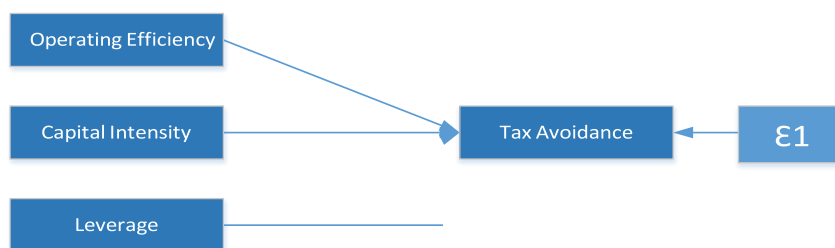
### 2.6. Leverage

Funding sources can come from debt or equity. The balance between debt and equity is called capital structure (Godfrey, J., 2010), and (Brigham and Houston, 2010). The emphasis of the capital structure discussion is related to the amount of debt. Capital structure is the balance of short-term permanent debt, long-term debt, and equity. *Leverage* is the amount of debt to finance investments and assets which is usually measured by total debt divided by total equity or debt divided by assets (Godfrey, J., 2010; Brigham & Houston, 2010).

The higher this ratio indicates the greater the amount of debt, which impacts the amount of interest paid. The greater the interest expense paid, the smaller the income earned which ultimately affects the tax burden paid. If the *leverage* ratio is high, then the amount of debt is also large, which has an impact on the amount of interest paid. Likewise, if the interest expense paid is large, the income earned will be small and affect the tax burden paid. Grossman and Hart (1982) state that the presence of debt-based management is one strategy to reduce agency problems and to increase supervision from external parties.

Agency conflicts between owners and management can be minimized if the owner's objectives can be met, namely increasing shareholder welfare in the form of return on equity (ROE) or return on assets (ROA). Thus, it will minimize agency conflicts between owners and management. Some researchers mention that the conflict between owners with management performance and agency costs, measured by the ability to pay dividends (Faccio et al., 2001; Wellalage & Locke, 2011; Li & Cui, 2003; Xu et al., 2005).

Profitability can be improved internally by management by streamlining (1) asset utilization ratio or turnover ratio (Rashid, 2013; Florackis & Ozkan, 2009), (2) operating efficiency ratio (Wellalage & Locke, 2011), and leverage (Lanis & Richardson, 2016). Agency conflicts also arise between management and tax authorities in tax payments, so management conducts tax planning with legal tax savings in the form of tax avoidance, as measured by effective tax rates (ETR) (Hanlon & Heitzman, 2010; Saifudin & Yunanda, 2016). Previous research that focused on *tax avoidance* as the dependent variable was conducted by (Brown & Drake, 2014; Ogbeide, 2017; Putra et al., 2018). Research conducted by Kim & Im, (2017) states that the factors that influence *tax avoidance* include *capital intensity*, and *leverage*. The results of this study are also supported by other researchers such as Merle M. Erickson, Shane M. Heitzman, (2013), Putra et al., 2018). Based on the theoretical study above, the framework can be arranged in Figure 1 as Figure 2.



**Figure 2:** Framework of Thought

Based on the above framework, several temporary conclusions can be proposed as hypotheses in this study as follows Tax avoidance is influenced by operating efficiency, capital intensity and leverage variables.

### 3. Materials and Methods

#### 3.1. Materials

The research method used in this research is quantitative and verification research method using statistical analysis to process data to test the hypothesis that has been proposed, verification research to prove the validity of an existing theory, the direct effect of operating efficiency, capital intensity and leverage variables on tax avoidance.

This research was conducted using secondary data from the sample cooperative financial statements with panel data for 5 years, namely from 2015 - 2019. The sample in this study is an active cooperative in the Regency / City in West Java Indonesia, which has financial statements in the period 2015 - 2019. Active cooperatives that are sampled are:

(1) Presenting financial statements, (2) Organizing annual member meetings (3) Having a turnover / service of more than IDR 4.8 billion per year, and (4) Cooperatives pay taxes on surpluses obtained in accordance with applicable regulations.

This study was conducted using two stages of sample determination, first, determining the sample of districts/cities and the second determining the sample of cooperatives in each selected district/city (two stage sampling). Both use *purposive sampling* or *judgment sampling* techniques. Sampling with this method aims to obtain a representative sample based on predetermined criteria.

#### 3.2. Methods

The data analysis technique used by describing the various data obtained was analyzed using a descriptive statistical analysis approach, by calculating the maximum, minimum or average value. Testing the effect between the independent variable and the dependent variable to simplify the analysis. The data analysis was carried out using multiple regression statistical analysis. Beginning with the classic assumption test.

### 3.3. Equation

Multiple linear regression calculations must meet BLUE (*Best, Linear, Unbiased, Estimator*) requirements, with decision making through the F test and t test should not be biased. Such analysis must be carried out classical assumption testing and linearity test. Hypothesis testing steps will be carried out Regression significance test (F test) and Regression Coefficient significance test (t test), with the regression equation as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3$$

Description:

- a : constant
- x1 : Operating Efficiency
- x2 : Capital Intensity
- x3 : Leverage
- Y : Tax avoidance
- E : Epsilon
- b1, b2 and b3 : Regression coefficient

The measurement formula for each research variable uses financial ratios related to the three independent variables and one dependent variable.

### 3.4. Tax avoidance

Assessed using Effective Tax Rate (ETR), the ratio between real tax paid and profit before tax. ETR is used to measure the amount of tax paid (Ardyansah, 2014). ETR as a measure of corporate tax burden because it describes the level of tax paid from profit. The ETR calculation is formulated:

$$Effective\ Tax\ Ratio = \frac{Tax\ Payment}{Earnings\ before\ Tax} \times 100\%$$

The higher the ETR means the higher the taxpayer compliance or the smaller the tax *avoidance*, conversely the smaller the ETR the lower the compliance in paying taxes or the higher the *tax avoidance* carried out by the taxpayer.

### 3.5. Operating efficiency or cost efficiency Ratio

Shows the ability to efficiently use costs and expenses that must be borne to generate sales (Myers, 2015) and (Ross et al., 2012), while according to (Pancheva, 2013) states that *Operating efficiency* is measured by comparing total costs with sales. The lower this ratio indicates that management's ability to use costs more efficiently. Operating efficiency Ratio is formulated:

$$Operating\ Efficiency = \frac{1 - EBT}{Sales} \times 100\%$$

The smaller this ratio, the greater the organization's ability to generate profits, reflecting management's performance in managing the business efficiently.

### 3.6. Capital Intensity Ratio

Measured by comparing total assets with turnover in the same period there is also another measure for Capital Intensity Ratio as the proportion of fixed assets in the overall assets owned by a (C. L. Putri & Lautania, 2016). (Myers, 2015) and (Ross et al., 2012), this ratio is the opposite of total asset turnover, which is to measure the effectiveness of sales with a certain amount of assets.

$$Return\ on\ Equity = \frac{Total\ Assets}{Sales} \times 100\%$$

Meanwhile, the smaller this ratio, the more effective the use of assets in generating sales. The higher this ratio, the greater the depreciation recognized as an expense but not cash, which results in a reduction in the remaining results of the cooperative so that the corporate tax is also smaller.

### 3.7. Leverage is the ratio of

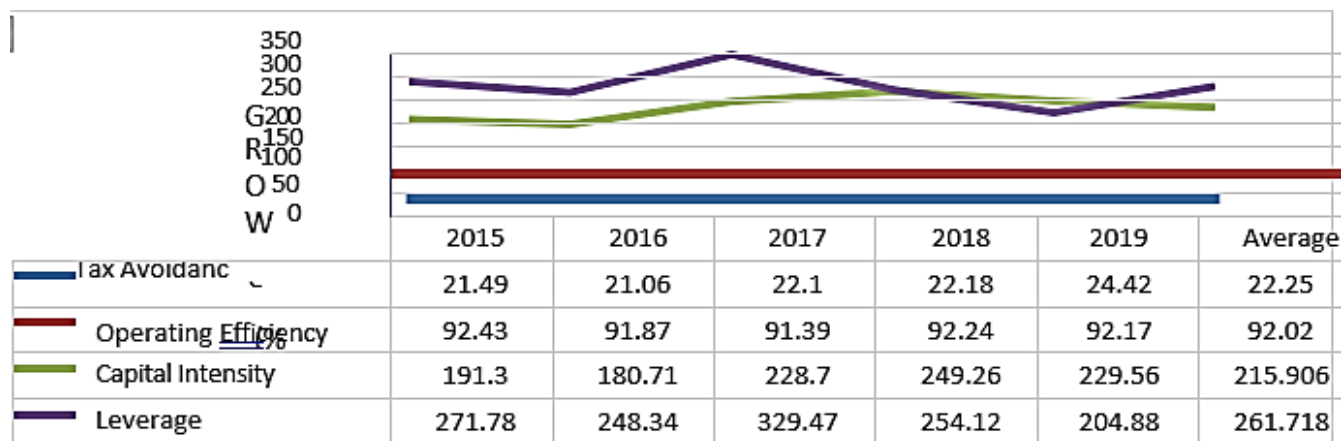
To find out the use of sources of funds from debt to finance assets. According to (Ardyansah, 2014) and (Ross et al., 2012), *leverage* can be measured by the debt to assets ratio, which compares total debt to *equity*.

$$Debt\ to\ Asset\ Ratio = \frac{Total\ Debt}{Total\ Assets} \times 100\%$$

If the ratio is greater, the greater the source of funds derived from debt, as a result, the greater the interest expense that must be paid and the smaller the remaining operating results and the result is the smaller the corporate tax that must be paid.

#### 4. Results and Discussion

The research results related to the acquisition of operating efficiency, capital intensity, leverage and tax avoidance data for 5 years (2015 - 2019), graphically can be presented in Figure 3.



Sources: The Result of Research

**Figure 3:** Development of All Research Variables

The average cooperative tax avoidance is measured by the Effective Tax Rate as a comparison between the real tax paid and the remaining operating results before tax. The average Effective Tax Rate is 21.34%, as a value that describes the average real tax paid by the sample cooperatives from the pre-tax surplus. This means that 78.66% of the pre-tax surplus as after-tax surplus will be distributed in accordance with the provisions of the cooperative. The higher the Effective Tax Rate, the higher the level of cooperative compliance in paying taxes.

Operating efficiency of the sample cooperatives averaged 91.89%, indicating that the activities carried out by cooperatives require costs, both basic expenses, operating expenses, depreciation expenses, interest expenses and taxes of 91.89% of total revenue/sales. The remaining 8.11% is the cooperative's after-tax surplus.

Capital intensity provides information to measure financial performance related to the level of effective use of assets. Capital intensity describes the amount of capital invested in fixed assets, usually measured by the ratio of fixed assets divided by sales. The average capital intensity of the sample cooperatives is 265.16%, this condition illustrates that the intensity of asset use to generate sales/revenue is relatively small. To generate IDR 1.00 revenue requires assets of IDR 2.65. The smaller this ratio the better the performance of the cooperative because the intensity of the use of its assets is greater.

The average debt to equity ratio of cooperatives is 259.01%, this indicates that the amount of debt, both short-term debt and long-term debt, is the largest source of financing for cooperatives. Borrowed capital amounted to IDR 2.59 while own capital was only IDR 1.00. The greater the cooperative's debt means the greater the interest expense that must be borne, thus it will have an impact on the surplus obtained by the cooperative.

Analysis to test the effect of predicting tax avoidance variables using independent variables, using regression analysis obtained results as presented in Table 1.

**Table 1:** Regression Coefficients

Coefficients <sup>a</sup>		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	-12.808	14.675		-0.873	0.388
	Operating efficiency	0.353	0.152	0.324	2.331	0.025
	Capital Intensity	-0.005	0.005	-0.134	-0.998	0.324
	Leverage	0.020	0.005	0.510	3.760	0.001

a. Dependent Variable: Tax Avoidance ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1830.904	4	457.726	7.999	0.000 <sup>b</sup>
Residuals	2231.824	39	57.226		
Total	4062.728	43			

a. Dependent Variable: Tax Avoidance

Based on the analysis results in Table 1 above, the regression equation illustrates that the amount of tax avoidance is determined by operating efficiency, capital intensity and leverage. With the following equation:

$$Y = -12.808 + 0.353X_1 - 0.005X_2 + 0.20X_3 \text{ or}$$

$$\text{Tax avoidance} = -12.808 + 0.353 \text{ Operating Efficiency} - 0.005 \text{ Capital intensity} + 0.20 \text{ Leverage}$$

Based on regression analysis obtained a constant value of -12.808, with a regression value for operating efficiency of 0.353, capital intensity of -0.005 and leverage of 0.020. While the results of the t test there are only 2 independent variables that determine the amount of tax avoidance, namely the operating efficiency and leverage variables, because based on the t test value the significance value is <0.05, each of which is 0.025 for operating efficiency, and 0.001 for leverage. While for the capital intensity variable with a significance value > 0.05, which amounted to 0.324. Thus it can be explained that of the three independent variables that determine the amount of tax avoidance only variable operating efficiency, and leverage.

The equation can be explained that every additional one-unit operating efficiency will increase tax avoidance by 0.353, and if leverage is increased by one-unit it will increase tax avoidance by 0.20, with a constant of - 12.808. Based on the results of the analysis presented in the equation above, the result that operating efficiency affects tax avoidance is significantly proven. The analysis result shows that the significance value is 0.025 <0.05. With a regression coefficient value of  $r = 0.324$ , it can be interpreted that this result is explained that the operating efficiency of the cooperative which is indicated by the efficiency of the use of business expenses and cooperative organizations compared to total services affects tax avoidance. This means that the more efficient the use of business expenses and cooperative organization expenses, the cooperative manager tries to do tax avoidance. An increase in operating efficiency will have an impact on increasing pre-tax surplus, so that managers can increasingly meet the demands of members in increasing the surplus share of members.

Likewise, the regression coefficient value of the leverage variable on tax avoidance, amounting to 0.02, is significant based on the results of the t test, these results indicate that leverage is explained by the ratio of debt to equity ratio, as a ratio that describes the ability of cooperatives to obtain funding sources from loans compared to their own capital, the greater this ratio indicates that the greater the source of cooperative funds comes from debt. The greater the cooperative debt, the greater the interest expense that must be paid, the greater the interest has an impact on reducing taxes on pre-tax surplus. Thus interest can be used by cooperative management to avoid tax on pre-tax surplus. If the cooperative's debt is large, the interest expense that must be paid is also large.

Capital intensity is not significant in determining tax avoidance, meaning that the intensity of asset use to produce services does not determine management's efforts to conduct tax avoidance. Tax savings should be made by management by taking into account the depreciation of fixed assets used, especially assets that have a time limit for use such as buildings, furniture, vehicles, and so on. Thus depreciation has not been significant as an effort to conduct tax avoidance. This condition is due to the fact that some of the cooperatives studied still have a limited number of fixed assets, and even then most of them are in the form of land that does not need to be depreciated, as well as functional cooperatives, most of which fixed assets are provided by the company or agency where the cooperative is located. Asset management in cooperatives generally cannot be optimized and management does not understand the importance of depreciation of fixed assets to save taxes.

The results of this study are in accordance with the opinion of Kim & Im, (2017) and Putra et al., (2018) that tax avoidance is influenced by capital intensity, and leverage. Other studies from a financial management perspective are associated with tax planning which is influenced by aspects of operating efficiency, leverage, (Merle M. Erickson, Shane M. Heitzman, 2013). Leverage is significant and positive relationship with tax aggressiveness that is measured by effective tax rate (Ogbeide, 2017).

The financial strategy formulated refers to the prediction of tax avoidance analyzed above, it should be determined that tax avoidance as part of tax planning should be a concern for management. As an effort to increase savings in tax payments, so as to increase the cooperative's surplus, which can be used for reinvestment and dividends, and as a social institution, the cooperative can increase its role in the welfare of members and the environment, whose funds can be taken from the surplus.



Surplus is important for the government, especially pre-tax surplus, because this surplus is a tax object, which will determine the amount of tax that can be collected. Thus management needs to pay attention to one important variable, namely legal tax saving strategies. The strategy is to take advantage of tax reduction opportunities through operating efficiency and leverage. Both can be used to reduce tax payments. High operating efficiency by itself can cover tax payments even though the amount becomes larger, as well as leverage, in accordance with the theory, that debt can leverage the surplus that is part of the member. Because interest payments will reduce tax payments or conversely taxes will reduce the amount of real interest that must be paid. This condition can occur if the cooperative also operates with high efficiency. The government is consistent to continue to obtain revenue from taxes to meet the national income target, on the other hand management wants to minimize tax payments to obtain a higher surplus (Irianto & S. Ak, 2017). This study shows with previous research that tax avoidance can be done by management in various ways, such as increasing the amount of fixed assets, debt, and operational cost efficiency (Putra et al., 2018). Meanwhile, other studies state that debt, and the intensity of asset use have no significant effect on tax avoidance (Irianto & S. Ak, 2017).

## 5. Conclusion

The results of this study indicate that the cooperative has actually begun to comply with paying taxes on the pre-tax surplus obtained. However, most of the managers have not taken advantage of the opportunity to save taxes by utilizing the elements in the financial statements, especially the surplus calculation report. The conclusion of this study shows that tax avoidance is predicted by operating efficiency and leverage variables, while the capital intensity variable does not significantly predict tax avoidance.

The strategy that should be developed by cooperative managers is with financial information, then take actions that can increase pre-tax surplus, and utilize capital sources from loans, the interest on which can be used to reduce taxes to be paid.

## Acknowledgments

The highest appreciation goes to Universitas Koperasi Indonesia for funding this research, as well as to the field survey team for generating the necessary data.

## References

- Anouar, D. (2017). The Determinants of Tax Avoidance within Corporate Groups: Evidence from Moroccan Groups. *International Journal of Economics, Finance and Management Sciences*. <https://doi.org/10.11648/j.ijefm.20170501.15>
- Ardyansah, D. (2014). Pengaruh Size, Leverage, Profitability, Capital Intensity Ratio Dan Komisarisi Independen Terhadap Effective Tax Rate (Etr). *3*(2), 371–379.
- Brigham; Houston. (2010). *Basics of Financial Management 11th Edition*.
- Brown, J. L. (2011). The spread of aggressive corporate tax reporting: A detailed examination of the corporate-owned life insurance shelter. *Accounting Review*. <https://doi.org/10.2308/accr.00000008>
- Brown, J. L., & Drake, K. D. (2014). Network ties among low-tax firms. *Accounting Review*. <https://doi.org/10.2308/accr-50648>
- Butje, S., & Tjondro, E. (2014). The Effect of Executive Character and Political Connections on Tax Avoidance. *Tax & Accounting Review*. <https://doi.org/10.1186/s40543-014-0024-3>
- Crutcheley, Claire E. dan Robert S. Hansen, 1989. A Test of the Agency Theory of the Managerial Ownership, Corporate Leverage, and Corporate Dividends, *Financial Management Winter*, 36-46.
- DeFond, M. L., & Hung, M. (2003). An empirical analysis of analyst's cash flow forecasts. *Journal of Accounting and Economics*. [https://doi.org/10.1016/S0165-4101\(02\)00098-8](https://doi.org/10.1016/S0165-4101(02)00098-8)
- Delgado, F. J., Fernandez-Rodriguez, E., & Martinez-Arias, A. (2014). Effective tax rates in corporate taxation: A quantile regression for the EU. *Engineering Economics*. <https://doi.org/10.5755/j01.ee.25.5.4531>
- E, D. (1994). Managerial of Economics of Cooperative. In *International Handbook of Cooperative Organization*.
- Eisenhardt, Kathleen M. 1989. Agency Theory: An assessment and review. *Academy of Management Review* (January), 14(1):57-74.
- Faccio, M., Lang, L. H. P., & Young, L. (2001). Dividends and expropriation. *American Economic Review*. <https://doi.org/10.1257/aer.91.1.54>
- Florackis, C., & Ozkan, A. (2009). The impact of managerial entrenchment on agency costs: An empirical investigation using UK panel data. *European Financial Management*. <https://doi.org/10.1111/j.1468-036X.2007.00418.x>
- Godfrey, J., et al. (2010). *Accounting Theory (7th ed.)*. McGraw Hill.

- Hanlon, M., & Heitzman, S. (2010). A review of tax research. In *Journal of Accounting and Economics*. <https://doi.org/10.1016/j.jacceco.2010.09.002>
- Herdiyanto, D. G., & Ardiyanto, M. D. (2015). Pengaruh Tax Avoidance Terhadap. *Diponegoro Journal of Accounting*. ICA, 2001, *Jatidiri Koperasi* (Prinsip-prinsip Koperasi untuk Abad ke-21), LSP2I, Jakarta
- Irianto, D. B. S., & S.Ak, A. W. (2017). The Influence of Profitability, Leverage, Firm Size and Capital Intensity Towards Tax Avoidance. *International Journal of Accounting and Taxation*. <https://doi.org/10.15640/ijat.v5n2a3>
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow , Corporate Finance , and Takeovers Agency Costs of Free Cash Flow , Corporate Finance , and Takeovers. *American Economic Review*. <https://doi.org/10.2139/ssrn.99580>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kaynak, E. (1985). Some thoughts on consumerism in developed and less developed countries. *International Marketing Review*, 2(2), 15-30.
- Kim, J. H., & Im, C. C. (2017). The study on the effect and determinants of small-and medium-sized entities conducting tax avoidance. *Journal of Applied Business Research*, 33(2), 375–390. <https://doi.org/10.19030/jabr.v33i2.9911>
- Kraft, A. (2014). What Really Affects German Firms' Effective Tax Rate? *International Journal of Financial Research*. <https://doi.org/10.5430/ijfr.v5n3p1>
- Lanis, R., & Richardson, G. (2016). A Reply to Corporate Social Responsibility and Tax Aggressiveness: A Test of Legitimacy Theory. In *Social and Environmental Accountability Journal*. <https://doi.org/10.1080/0969160X.2016.1148975>
- Li, H., & Cui, L. (2003). Empirical Study of Capital Structure on Agency Costs in Chinese Listed Firms. *Nature and Science*.
- Mardiasmo. (2016). *Perpajakan* (Revisi Tah). Andi.
- Menteri/sekretaris negara Republik Indonesia. (1992). Undang-Undang Republik Indonesia Nomor 25 Tahun 1992 Tentang Perkoperasian. *Lembaran Negara Republik Indonesia*. <https://doi.org/10.1017/CBO9781107415324.004>
- Merle M. Erickson, Shane M. Heitzman, and X. F. Z. (2013). Tax-Motivated Loss Shifting. *The Accounting Review*, 88(5), 1657–1682. <https://doi.org/https://doi.org/10.2308/accr-50496>
- Myers, S. C. (2000). Outside equity. *Journal of Finance*. <https://doi.org/10.1111/0022-1082.00239>
- Myers, S. C. (2015). Finance, theoretical and applied. *Annual Review of Financial Economics*, 7, 1-34.
- Ogbeide, S. O. (2017). Firm Characteristics and Tax Aggressiveness of Listed Firms in Nigeria : Empirical Evidence. *International Journal of Academic Research in Public Policy and Governance*, 4(1), 556–569. <https://doi.org/10.6007/IJARPPG/v4-i1/562>
- Pancheva, A. (2013). Determinants Of The Bank's Operating Efficiency. *Izvestiya*, 1, 74–85.
- Park, J. J. (2009). Shareholder compensation as dividend. *Michigan Law Review*, 108(3), 323–372.
- Putra, P. dwi, Syah, D. husrizal, & Sriwedari, (2018). Tax Avoidnce: Evidence of As a proof of Agency Theory and Tax Planning. *International Journal of Research & Review*. <https://doi.org/10.1107/s0108768109011057>
- Putri, C. L., & Lautania, M. F. (2016). Pengaruh Capital Intensity Ratio, Inventory Intensity Ratio, Ownership Structure dan Profitability Terhadap Effective Tax Rate (ETR) Profitability Terhadap Effective Tax Rate (ETR). *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi (JIMEKA)*.
- Putri, R. T., Ulum, I., & Prasetyo, A. (2019). Company Risk, Size, Fiscal Loss Compensation, and Tax Avoidance: Evidence from Indonesian Islamic Companies. *Journal of Innovation in Business and Economics*. <https://doi.org/10.22219/jibe.v2i02.7323>
- Rashid, A. (2013). CEO duality and agency cost: Evidence from Bangladesh. *Journal of Management and Governance*. <https://doi.org/10.1007/s10997-012-9213-x>
- Ross, S. A., Westerfield, R. W., & Bradford D. Jordan. (2012). Fundamentals of Corporate Finance. In *Standard Edition*. <https://doi.org/10.1017/CBO9781107415324.004>
- Roy. (1981). *Cooperative, Development, Principle and Management* (4th ed.). The Interstate Printers & Publisher Inc.
- Saifudin, -, & YUNANDA, D. (2016). Determinasi Return On Asset, Leverage, Ukuran Perusahaan, Kompensasi Rugi Fiskal dan Kepemilikan Institusi terhadap Penghindaran Pajak (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2011 - 2014). *WIGA: Jurnal Penelitian Ilmu Ekonomi*. <https://doi.org/10.30741/wiga.v6i2.121>
- Sugiyanto, & Rahayu, A. A. (2020). *Cooperative Tax: Regulation, Implementation, and Expectation of Legal Avoidance*. <https://doi.org/10.2991/assehr.k.200529.223>

- Sugiyanto, S., & Rahayu, A. A. (2019). The Implementation Of Risk Management And Its Effect On Good Cooperative Governance And Success. *Journal of Indonesian Economy and Business*. <https://doi.org/10.22146/jieb.28570>
- Sugiyanto, S., Arum, D. P., & Rahayu, A. A. (2021). Implementasi Dan Formulasi Strategi Manajemen Risiko Pada Unit Usaha Sapi Perah Dan Produksi Susu Kud Sarwa Mukti. *Jurnal Soshum Insentif*. <https://doi.org/10.36787/jsi.v4i1.514>
- Wellalage, N. H., & Locke, S. (2011). Agency costs, ownership structure and corporate governance mechanisms: A case study in New Zealand unlisted small companies. *International Research Journal of Finance and Economics*. <https://doi.org/10.15209/jbsge.v6i3.209>
- Xu, L. C., Zhu, T., & Lin, Y. M. (2005). Politician control, agency problems and ownership reform: Evidence from China. *Economics of Transition*. <https://doi.org/10.1111/j.1468-0351.2005.00205>.