

AKUMULASI: Indonesian Journal of Applied Accounting and Finance

URL: <https://journal.uns.ac.id/index.php/akumulasi/article/view/2363>

DOI: <https://doi.org/10.20961/akumulasi.v4i1.2363>

Volume 4, Issue 1, Page 17-29, June 2025

## Analysis of FIFO and Average Methods for Corporate Income Tax Savings (Case Study on a Credit Union in Karanganyar)

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### ABSTRACT

This research aims to analyze the comparison of inventory valuation methods at Credit Union X using the FIFO method and the average method to achieve efficiency in Corporate Income Tax (CIT). This research employed a quantitative descriptive method by calculating inventory data from purchase and sales transactions from January to December 2024. The samples used in this study are items with regular purchase demand, namely Wipol Karbol Cemara, Pledge lemon pouch, Sania Cooking Oil 1 Liter, and Bay Fresh strawberry. The results show that tax calculations using the rate from article 31E of the Income Tax Law result in a payable tax of Rp544,440 for the FIFO method and Rp542,354 for the average method. Thus, the application of the average inventory valuation method is considered more efficient in terms of tax savings for the company.

**Keywords:** average; corporate income tax efficiency; FIFO; inventory valuation methods

**Cite this as:** Azzahra, N., & Juliati. (2025). Analysis of FIFO and average methods for corporate income tax savings (Case study on a credit union in Karanganyar). *AKUMULASI: Indonesian Journal of Applied Accounting and Finance*, 4(1), 17-29. <https://doi.org/10.20961/akumulasi.v4i1.2363>

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*Received for publication on 26 May, 2025*

*Accepted after revisions on 24 June, 2025*

## INTRODUCTION

Taxes are a source of state revenue used to finance various government expenditures (Tax, 2024). Taxes are paid by citizens who meet the criteria as tax subjects. One of the taxpayers is corporate taxpayers. For companies, taxes are a burden that must be borne and will affect the fluctuations in net profit. Therefore, special attention to tax burdens is necessary (Djuharni & Bezaliel, 2019). When companies perceive paying taxes as a burden, they will strive to minimize their tax burden to optimize their profits (Pulungan et al., 2024). Therefore, they can use surplus funds for other operational needs. The efficiency of the taxable amount can be achieved by selecting the appropriate inventory valuation method under financial accounting standards and allowable under tax law, as well as assessing the impact of the method choice on the company's profits (Sonu & Budiarmo, 2020).

The inventory valuation method for calculating the cost price permitted by Article 10 of the Income Tax Law is carried out on average or prioritizing the first inventory obtained (First In First Out). The FIFO method is usually used by minimarkets to reduce the risk of expired goods. The average method is commonly used in business fields that do not have an expiration date. Determining the inventory valuation method in a company will affect the net profit that will be obtained (Ningtyas et al., 2024; Shoimah, 2023). The use of the FIFO method for management is more profitable because the company will get a higher net profit even when the prices of goods experience inflation (Aisyah et al., 2025; Putri et al., 2022; Salim et al., 2021; Widyasari et al., 2021; Saparius et al., 2017). On the other hand, some companies choose to use the average method to determine the cost of goods sold because they assume that this method will provide lower income tax due to the company's lower net profit so that the company can obtain tax savings benefits (Weygandt et al., 2013; Sonu & Budiarmo, 2020).

The use of the average method is more profitable if it is viewed from a tax perspective because it produces a lower amount of tax payable compared to the FIFO method. Several studies have shown that using the average method produces a higher cost of goods sold, so the tax burden borne by the company is lower (Aisyah et al., 2025; Cahya et al., 2024; Ningtyas et al., 2024; Salim et al., 2021; Syamsuddin, 2023). Other studies have shown that the calculation of inventory valuation using the average method at PT XXX produces a higher cost of goods sold value than using the FIFO method (Pulungan et al., 2024; Maulana et al., 2024; Paraswati et al., 2021; Yunus, 2017). Thus, this method can minimize the burden of corporate income tax owed by PT XXX. This study aims to apply the inventory valuation method, namely FIFO and average, to see its effect on the company's tax burden. This study can be utilized by Credit Union X in implementing inventory valuation calculations using the FIFO or average method.

Credit Unions are defined as enterprises that have the principle of independence. According to Law No. 25 of 1992 Article 5 concerning Credit Unions, Credit Unions can stand alone based on trust to manage and be accountable for their business operations (Law No. 25 of 1992 concerning Credit Union, 1992). In terms of taxation, Credit Unions are categorized as obligatory corporate taxpayers who should carry out and fulfill their tax obligations according to the provisions in the regulations. As regulated in Law No. 6 of 1983 Article 28 paragraph (1) concerning General Provisions and Tax Procedures which has been amended several times and contained in the consolidation in a single text of tax regulations, one of the obligations of corporate taxpayers conducting business activities is to maintain bookkeeping by financial accounting standards to present information to calculate the amount of income that is taxable (Directorate General of Tax of Republic Indonesia, 2023).

Credit Union X is one of the Credit Unions that have various business units, including savings and loan business units, shop business units (minimarkets), transportation service business units, and canteen business units. As a shop business unit, the Credit Union sells various needs such as snacks, daily needs, packaged drinks, medicines, toiletries, household appliances, clothing, office stationery, and

various merchandise such as t-shirts, jackets, tumblers, ballpoint pens, key chains, hats, and lanyards. In addition, Credit Union X also accepts consignment goods from members and non-members in the form of clothing, bread, snacks, herbal drinks, accessories, and so on.

Credit Union X has been registered as a corporate taxpayer at the Tax Service Office and has carried out tax obligations to make payments and report corporate income tax. Inventory recording in Credit Unions has used a computerized system with micro store software 4.0, but sometimes the implementation of inventory valuation has not been implemented properly by Credit Unions. It might be caused by the lack of information and understanding of Credit Unions regarding inventory valuation methods and the application of the methods that should be used.

## RESEARCH METHOD

This research used a qualitative research method by describing in detail to provide an overview of the object being studied. This research was conducted at Credit Union X located in Karanganyar Regency. Credit Union X sells various products. This study took product samples for inventory calculations, namely Wipol Karbol Cemara, Pledge lemon pouch, Sania Cooking Oil 1 L, and Bay Fresh strawberry. Both products were used as samples in this study because these two products were the most sold at Credit Union X. The sales data used were sales data that were used for product samples from January to December 2024. The research was done by following steps: (1) calculating inventory using the FIFO method for Wipol Karbol Cemara, Pledge lemon pouch, Sania Cooking Oil 1 L, and Bay Fresh strawberry products; (2) calculating inventory using the average method for Wipol Karbol Cemara, Pledge lemon pouch, Sania Cooking Oil 1 L, and Bay Fresh strawberry products; (3) comparing Cost of Goods Sold (COGS) and ending inventory using the FIFO method; (4) comparing Cost of Goods Sold (COGS) and ending inventory using the average method; (5) calculating income tax using the FIFO method; and (6) calculating income tax using average method.

## RESULT AND DISCUSSION

Credit Union X sells a wide range of products, including food, beverages, household essentials, and more. Every month, the Credit Union X receives purchase requests to meet the needs of the head office and branch offices. The researchers selected four product samples with high demand to calculate the cost of goods sold using both the FIFO method and the average method, utilizing purchase and sales transaction data from January to December 2024. The information contained in Tables 1 to 8 is in Indonesian because it was taken from the accounting system used by Credit Union X. The following is an English translation of the terms used in the output of the Credit Union X accounting system.

Information in tables 1 to 8:

*Tgl (Tanggal)* : Date

Unit : Unit

Total : Total

*Pembelian* : Purchase

*Harga/unit* : Price/unit

*Harga pokok penjualan* : Cost of goods sold

*Persediaan* : Inventory

### The Calculation Using FIFO Method

The following are 4 product samples used for inventory valuation calculations using the FIFO method.

Table 1 shows that the COGS per unit in July 2024 is Rp15,900. This is in accordance with the FIFO concept that the earliest cost purchased in January 2024 is the cost recognized as COGS. From the calculation above, it is also known that the COGS obtained is Rp749,500, the following is the calculation of the FIFO COGS of Wipol Karbol Cemara:

Beginning inventory	Rp 318,000
Purchase	Rp 762,000
Goods available for sale	Rp 1,080,000
Ending inventory	(Rp 330,500)
Cost of goods sold	Rp 749,500

Table 1. Sample 1: Wipol Karbol Cemara - FIFO method for Wipol Karbol Cemara sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Jan-24							20	Rp 15.900	Rp 318.000
May-24	8	Rp 15.900	Rp 127.200				28	Rp 15.900	Rp 445.200
Jul-24				15	Rp 15.900	Rp 238.500	13	Rp 15.900	Rp 206.700
Sep-24	24	Rp 17.900	Rp 429.600				13	Rp 15.900	Rp 206.700
							24	Rp 17.900	Rp 429.600
Oct-24				13	Rp 15.900	Rp 206.700	24	Rp 17.900	Rp 429.600
Oct-24				7	Rp 17.900	Rp 125.300	17	Rp 17.900	Rp 304.300
Nov-24	12	Rp 17.100	Rp 205.200				17	Rp 17.900	Rp 304.300
							12	Rp 17.100	Rp 205.200
Dec-24				10	Rp 17.900	Rp 179.000	7	Rp 17.900	Rp 125.300
							12	Rp 17.100	Rp 205.200
			Rp 762.000			Rp 749.500			Rp 330.500

Source: The output of the accounting system used by Credit Union X

Table 2 shows that the COGS per unit in January 2024 is Rp17,150. This is in accordance with the FIFO concept that the earliest cost purchased in January 2024 is the cost recognized as COGS. From the calculation above, it is also known that the COGS obtained is Rp3,433,700, the following is the calculation of the FIFO COGS Pledge lemon pouch:

Beginning inventory	Rp 857,500
Purchase	Rp 3,171,200
Goods available for sale	Rp 4,028,700
Ending inventory	(Rp 595,000)
Cost of goods sold	Rp 3,433,700

Table 3 shows that the COGS per unit in May 2024 is Rp17,042, this is in accordance with the FIFO concept that the earliest cost purchased in May 2024 is the cost recognized as COGS. From the calculation above, it is also known that the COGS obtained is IDR1,741,644, the following is the calculation of the FIFO COGS of 1 liter of Sania cooking oil:

Beginning inventory	Rp -
Purchase	Rp 2,097,096
Goods available for sale	Rp 2,097,096
Ending inventory	(Rp 355,452)
Cost of goods sold	Rp 1,741,644

Table 2. Sample 2: Pledge lemon pouch - FIFO method for Pledge lemon pouch sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Jan-24							50	Rp 17.150	Rp 857.500
Jan-24	48	Rp 17.150	Rp 823.200				98	Rp 17.150	Rp 1.680.700
				24	Rp 17.150	Rp 411.600	74	Rp 17.150	Rp 1.269.100
Feb-24				26	Rp 17.150	Rp 445.900	48	Rp 17.150	Rp 823.200
Mar-24	24	Rp 17.150	Rp 411.600				72	Rp 17.150	Rp 1.234.800
				11	Rp 17.150	Rp 188.650	61	Rp 17.150	Rp 1.046.150
Apr-24				9	Rp 17.150	Rp 154.350	52	Rp 17.150	Rp 891.800
May-24	24	Rp 17.500	Rp 420.000				52	Rp 17.150	Rp 891.800
							24	Rp 17.500	Rp 420.000
				12	Rp 17.150	Rp 205.800	40	Rp 17.150	Rp 686.000
Sep-24	38	Rp 17.800	Rp 676.400				24	Rp 17.500	Rp 420.000
							40	Rp 17.150	Rp 686.000
							24	Rp 17.500	Rp 420.000
							38	Rp 17.800	Rp 676.400
				32	Rp 17.150	Rp 548.800	8	Rp 17.150	Rp 137.200
Nov-24	48	Rp 17.500	Rp 840.000				24	Rp 17.500	Rp 420.000
							38	Rp 17.800	Rp 676.400
							8	Rp 17.150	Rp 137.200
							24	Rp 17.500	Rp 420.000
							38	Rp 17.800	Rp 676.400
							48	Rp 17.500	Rp 840.000
				8	Rp 17.150	Rp 137.200			
			24	Rp 17.500	Rp 420.000				
			38	Rp 17.800	Rp 676.400				
			14	Rp 17.500	Rp 245.000	34	Rp 17.500	Rp 595.000	
			Rp3.171.200			Rp3.433.700			Rp 595.000

Source: The output of the accounting system used by Credit Union X

Table 3. Sample 3: Sania cooking oil 1 liter - FIFO method for Sania cooking oil 1 liter sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Mei-24	12	Rp 17.042	Rp 204.504				12	Rp 17.042	Rp 204.504
				10	Rp 17.042	Rp 170.420	2	Rp 17.042	Rp 34.084
Jul-24	36	Rp 16.900	Rp 608.400				2	Rp 17.042	Rp 34.084
							36	Rp 16.900	Rp 608.400
Agu-24				2	Rp 17.042	Rp 34.084	36	Rp 16.900	Rp 608.400
				26	Rp 16.900	Rp 439.400	10	Rp 16.900	Rp 169.000
Sep-24	48	Rp 17.400	Rp 835.200				10	Rp 16.900	Rp 169.000
							48	Rp 17.400	Rp 835.200
				10	Rp 16.900	Rp 169.000	48	Rp 17.400	Rp 835.200
			24	Rp 17.400	Rp 417.600	24	Rp 17.400	Rp 417.600	
Okt-24				13	Rp 17.400	Rp 226.200	11	Rp 17.400	Rp 191.400
Nov-24	24	Rp 18.708	Rp 448.992				11	Rp 17.400	Rp 191.400
							24	Rp 18.708	Rp 448.992
Des-24				11	Rp 17.400	Rp 191.400	24	Rp 18.708	Rp 448.992
				5	Rp 18.708	Rp 93.540	19	Rp 18.708	Rp 355.452
			Rp2.097.096			Rp1.741.644			Rp 355.452

Source: The output of the accounting system used by Credit Union X

Table 4 shows that the COGS per unit in January 2024 is IDR10,700, this is in accordance with the FIFO concept that the earliest cost purchased in January 2024 is the cost recognized as COGS. From the calculation above, it is also known that the COGS obtained is IDR2,422,700, the following is the calculation of the FIFO COGS of Bay Fresh strawberries:

Beginning inventory	Rp 53,500
Purchase	Rp 2,743,200
Goods available for sale	Rp 2,796,700
Ending inventory	(Rp 374,000)
Cost of goods sold	Rp 2,422,700

Table 4. Sample 4: Bay Fresh strawberry - FIFO method for Bay Fresh strawberry sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Jan-24							5	Rp 10.700	Rp 53.500
Jan-24	24	Rp 10.700	Rp 256.800				29	Rp 10.700	Rp 310.300
				15	Rp 10.700	Rp 160.500	14	Rp 10.700	Rp 149.800
Feb-24	48	Rp 9.700	Rp 465.600				14	Rp 10.700	Rp 149.800
							48	Rp 9.700	Rp 465.600
				14	Rp 10.700	Rp 149.800	48	Rp 9.700	Rp 465.600
				16	Rp 9.700	Rp 155.200	32	Rp 9.700	Rp 310.400
Mar-24				30	Rp 9.700	Rp 291.000	2	Rp 9.700	Rp 19.400
Apr-24	24	Rp 8.500	Rp 204.000				2	Rp 9.700	Rp 19.400
							24	Rp 8.500	Rp 204.000
				2	Rp 9.700	Rp 19.400	24	Rp 8.500	Rp 204.000
				22	Rp 8.500	Rp 187.000	2	Rp 8.500	Rp 17.000
May-24	48	Rp 10.800	Rp 518.400				2	Rp 8.500	Rp 17.000
							48	Rp 10.800	Rp 518.400
				2	Rp 8.500	Rp 17.000	48	Rp 10.800	Rp 518.400
				28	Rp 10.800	Rp 302.400	20	Rp 10.800	Rp 216.000
Jun-24	72	Rp 10.700	Rp 770.400				20	Rp 10.800	Rp 216.000
							72	Rp 10.700	Rp 770.400
				20	Rp 10.800	Rp 216.000	72	Rp 10.700	Rp 770.400
				18	Rp 10.700	Rp 192.600	54	Rp 10.700	Rp 577.800
Aug-24	48	Rp 11.000	Rp 528.000				54	Rp 10.700	Rp 577.800
							48	Rp 11.000	Rp 528.000
				54	Rp 10.700	Rp 577.800	48	Rp 11.000	Rp 528.000
				14	Rp 11.000	Rp 154.000	34	Rp 11.000	Rp 374.000
			Rp 2.743.200			Rp 2.422.700			Rp 374.000

Source: The output of the accounting system used by Credit Union X

**The Calculation Using Average Method**

The following is a calculation of 4 product samples used for inventory valuation calculations using the average method.

Table 5. Sample 1: Wipol Karbol Cemara - Average method for Wipol Karbol Cemara sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Jan-24							20	Rp 15.900	Rp 318.000
May-24	8	Rp 15.900	Rp 127.200				28	Rp 15.900	Rp 445.200
Jul-24				15	Rp 15.900	Rp 238.500	13	Rp 15.900	Rp 206.700
Sep-24	24	Rp 17.900	Rp 429.600				37	Rp 17.197	Rp 636.300
Oct-24				20	Rp 17.197	Rp 343.946	17	Rp 17.197	Rp 292.354
Nov-24	12	Rp 17.100	Rp 205.200				29	Rp 17.157	Rp 497.554
Dec-24				10	Rp 17.157	Rp 171.570	19	Rp 17.157	Rp 325.984
			Rp 762.000			Rp 754.016			Rp 325.984

Source: The output of the accounting system used by Credit Union X

Table 5 shows that the COGS per unit in October 2024 is Rp17,197, this is obtained by dividing the total cost of goods available for sale of Rp636,300 by the total units of goods available, which is 37 units. From the calculation above, it is also known that the COGS obtained is Rp754,016, the following is the calculation of the average COGS of Wipol Karbol Cemara:

Beginning inventory	Rp 318,000
Purchase	Rp 762,000
Goods available for sale	Rp 1,080,000
Ending inventory	(Rp 325,984)
Cost of goods sold	Rp 754,016

Table 6. Sample 2: Pledge lemon pouch - Average method for Pledge lemon pouch sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Jan-24							50	Rp 17.150	Rp 857.500
Jan-24	48	Rp 17.150	Rp 823.200				98	Rp 17.150	Rp 1.680.700
Feb-24				24	Rp 17.150	Rp 411.600	74	Rp 17.150	Rp 1.269.100
Mar-24				26	Rp 17.150	Rp 445.900	48	Rp 17.150	Rp 823.200
Mar-24	24	Rp 17.150	Rp 411.600				72	Rp 17.150	Rp 1.234.800
Apr-24				11	Rp 17.150	Rp 188.650	61	Rp 17.150	Rp 1.046.150
Apr-24				9	Rp 17.150	Rp 154.350	52	Rp 17.150	Rp 891.800
May-24	24	Rp 17.500	Rp 420.000				76	Rp 17.261	Rp 1.311.800
May-24				12	Rp 17.261	Rp 207.126	64	Rp 17.261	Rp 1.104.674
Sep-24	38	Rp 17.800	Rp 676.400				102	Rp 17.462	Rp 1.781.074
Sep-24				32	Rp 17.462	Rp 558.768	70	Rp 17.462	Rp 1.222.305
Nov-24	48	Rp 17.500	Rp 840.000				118	Rp 17.477	Rp 2.062.305
Nov-24				84	Rp 17.477	Rp 1.468.082	34	Rp 17.477	Rp 594.224
			Rp3.171.200			Rp3.434.476			Rp 594.224

Source: The output of the accounting system used by Credit Union X

Table 6 shows that the COGS per unit in May 2024 is Rp17,261, this is obtained by dividing the total cost of goods available for sale of Rp1,311,800 by the total units of goods available, which is 76 units. From the calculation above, it is also known that the COGS obtained is Rp3,434,476, the following is the calculation of the average Pledge lemon pouch COGS:

Beginning inventory	Rp 857,500
Purchase	Rp 3,171,200
Goods available for sale	Rp 4,028,700
Ending inventory	(Rp 594,224)
Cost of goods sold	Rp 3,434,476

Table 7. Sample 3: Sania cooking oil 1 liter - Average method for Sania cooking oil 1 liter sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Mei-24	12	Rp 17.042	Rp 204.504				12	Rp 17.042	Rp 204.504
Jul-24				10	Rp 17.042	Rp 170.420	2	Rp 17.042	Rp 34.084
Jul-24	36	Rp 16.900	Rp 608.400				38	Rp 16.907	Rp 642.484
Agu-24				28	Rp 16.907	Rp 473.409	10	Rp 16.907	Rp 169.075
Sep-24	48	Rp 17.400	Rp 835.200				58	Rp 17.315	Rp 1.004.275
Sep-24				34	Rp 17.315	Rp 588.713	24	Rp 17.315	Rp 415.562
Okt-24				13	Rp 17.315	Rp 225.096	11	Rp 17.315	Rp 190.466
Nov-24	24	Rp 18.708	Rp 448.992				35	Rp 18.270	Rp 639.458
Des-24				16	Rp 18.270	Rp 292.324	19	Rp 18.270	Rp 347.134
			Rp2.097.096			Rp1.749.962			Rp 347.134

Source: The output of the accounting system used by Credit Union X

Table 7 shows that the COGS per unit in August 2024 is Rp16,907, this is obtained by dividing the total cost of goods available for sale of Rp642,484 by the total units of goods available, which is 38 units. From the calculation above, it is also known that the COGS obtained is Rp1,749,962, the following is the calculation of the average COGS of 1 liter of Sania cooking oil:

Beginning inventory	Rp	-
Purchase	Rp	2,097,096
Goods available for sale	Rp	2,097,096
Ending inventory	(Rp	347,134)
Cost of goods sold	Rp	1,749,962

Table 8. Sample 4: Bay Fresh strawberry - Average method for Bay Fresh strawberry sample

TGL	PEMBELIAN			HARGA POKOK PENJUALAN			PERSEDIAAN		
	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL	UNIT	HARGA/UNIT	TOTAL
Jan-24							5	Rp 10.700	Rp 53.500
Jan-24	24	Rp 10.700	Rp 256.800	15	Rp 10.700	Rp 160.500	29	Rp 10.700	Rp 310.300
Feb-24	48	Rp 9.700	Rp 465.600				14	Rp 10.700	Rp 149.800
Mar-24				30	Rp 9.926	Rp 297.774	62	Rp 9.926	Rp 615.400
Apr-24	24	Rp 8.500	Rp 204.000	30	Rp 9.926	Rp 297.774	32	Rp 9.926	Rp 317.626
May-24	48	Rp 10.800	Rp 518.400	24	Rp 8.610	Rp 206.632	2	Rp 9.926	Rp 19.852
Jun-24	72	Rp 10.700	Rp 770.400	30	Rp 10.712	Rp 321.372	26	Rp 8.610	Rp 223.852
Aug-24	48	Rp 11.000	Rp 528.000	68	Rp 10.843	Rp 737.297	2	Rp 8.610	Rp 17.219
			Rp2.743.200			Rp2.428.052	50	Rp 10.712	Rp 535.619
							20	Rp 10.712	Rp 214.248
							92	Rp 10.703	Rp 984.648
							54	Rp 10.703	Rp 577.945
							102	Rp 10.843	Rp 1.105.945
							34	Rp 10.843	Rp 368.648
									Rp 368.648

Source: The output of the accounting system used by Credit Union X

Table 8 shows that the COGS per unit in February 2024 was Rp9,926, this was obtained by dividing the total cost of goods available for sale of Rp615,400 by the total units of goods available, which is 62 units. From the calculation above, it is also known that the COGS obtained was Rp2,428,052, the following is the calculation of the average COGS of Bay Fresh strawberries:

Beginning inventory	Rp	53,500
Purchase	Rp	2,743,200
Goods available for sale	Rp	2,796,700
Ending inventory	(Rp	368,648)
Cost of goods sold	Rp	2,428,052

### Comparison of Cost of Goods Sold and Ending Inventory

The calculation of COGS and ending inventory can be seen in Tables 1-8 inventory stock, and it shows that the results of the recapitulation of COGS and ending inventory calculations using the FIFO method are as follows:

Table 9. Summary of COGS and ending inventory using FIFO method

No.	Information	COGS of FIFO	Ending Inventory of FIFO Method
1.	Wipol Karbol Cemara	Rp 749,500	Rp 330,500
2.	Pledge lemon pouch	Rp 3,433,700	Rp 595,000
3.	Sania cooking oil 1 liter	Rp 1,741,644	Rp 355,452
4.	Bay Fresh strawberry	Rp 2,422,700	Rp 374,000

Source: Data processed (2025)

The calculation of COGS and ending inventory using the average method can be seen in Tables 1-8 inventory stock, and it shows that the results of the recap of the calculation of COGS and ending inventory using the average method are as follows:

Table 10. Summary of COGS and ending inventory of average method

No.	Information	COGS of Average	Ending Inventory of Average
1.	Wipol Karbol Cemara	Rp 754,016	Rp 325,984
2.	Pledge lemon pouch	Rp 3,434,476	Rp 594,224
3.	Sania cooking oil 1 liter	Rp 1,749,962	Rp 347,134
4.	Bay Fresh strawberry	Rp 2,428,052	Rp 368,648

Source: Data processed (2025)

The calculation of COGS based on the calculation recap in Tables 9 and 10 shows that the use of the average method produces a higher COGS compared to the FIFO method. The *Wipol Karbol Cemara* sample produces an average COGS of Rp754,015 and a FIFO of Rp749,500 with a difference of Rp4,516. The Pledge lemon pouch sample produces an average COGS of Rp3,434,476 and a FIFO of Rp3,433,700 with a difference of Rp776. Sania Cooking Oil 1 liter sample produces an average COGS of Rp1,749,962 and a FIFO of Rp1,741,644 with a difference of Rp8,318. The Bay Fresh strawberry sample produces an average COGS of Rp2,428,052 and a FIFO of Rp2,422,700 with a difference of Rp5,352. The difference produced by the average and FIFO methods based on the calculations that have been carried out is not large enough, namely Rp18,962.

The calculation of ending inventory based on the calculation recap in Tables 9 and 10 shows that the use of the FIFO method produces a higher ending inventory value compared to the average method. The *Wipol Karbol Cemara* sample produces an ending inventory value of FIFO of Rp330,500 and an average of Rp325,984 with a difference of Rp4,516. The Pledge lemon pouch sample produces an ending inventory value of FIFO of Rp595,000 and an average of Rp594,224 with a difference of Rp776. Sania Cooking Oil 1 liter sample produces an ending inventory value of FIFO of Rp355,452 and an average of Rp347,134 with a difference of Rp8,318. The Bay Fresh strawberry sample produces an ending inventory value of FIFO of Rp374,000 and an average of Rp368,648 with a difference of Rp5,352. The difference produced by the FIFO and average methods based on the calculations that have been carried out is not large enough, namely Rp18,962.

Inventory calculations using the average methods show different results for the four products used as samples. The implementation of income tax calculation is based on the sales of the four sample products.

### The Calculation of Income Tax If Applying the FIFO Method

The profit and loss report of Credit Union X using the FIFO method can be seen in Table 11. Based on the profit and loss report in Table 11, corporate income tax at Credit Union X using the FIFO method can be calculated as follows:

$$\text{Income tax payable} = 50\% \times 22\% \times \text{Rp}4,949,456 = \text{Rp}544,440$$

The calculation above refers to the COGS Law article 17 paragraph 1 letter (b) using the rate reduction facility according to article 31E paragraph (1) of the Income Tax Law of 50% of the normal corporate income tax rate in effect because the gross turnover obtained is not more than Rp4,800,000,000. So, it is known that the corporate income tax payable using the FIFO inventory valuation method is Rp544,440.

Table 11. Profit and Loss Report of Credit Union X Using FIFO Method

Credit Union X Profit and Loss Report Period of 31 December 2024			
Store Sales	Rp	10,667,000	
Total Sales			Rp 10,667,000
COGS of Store	Rp	8,347,544	
Total of COGS			Rp 8,347,544
Commission	Rp	74,800,000	
Other Income	Rp	39,000,000	
Total Commission			Rp 113,800,000
Total Income			Rp 116,119,456
Rent	Rp	4,000,000	
Wage	Rp	65,000,000	
Equipment Depreciation	Rp	4,200,000	
Management and Member Meeting	Rp	10,500,000	
Promotion	Rp	750,000	
Transport	Rp	300,000	
Bank Administration Fee	Rp	120,000	
Health Insurance (BPJS)	Rp	1,300,000	
Fixed Deposit Charge	Rp	25,000,000	
Total Expenses			Rp 111,170,000
Net Profit			Rp 4,949,456
Taxes	Rp	544,440	
Total Taxes			Rp 544,440
Net Profit After Taxes			Rp 4,405,016

Source: Data processed (2025)

### The Calculation of Income Tax by Applying the Average Method

The profit and loss report of Credit Union X using the average method is presented in Table 12. Based on the profit and loss report in Table 12, corporate income tax at Credit Union X using the FIFO method can be calculated as follows:

$$\text{Income tax payable} = 50\% \times 22\% \times \text{Rp}4,930,494 = \text{Rp}542,354$$

The calculation above refers to the COGS Law article 17 paragraph 1 letter (b) using the rate reduction facility according to article 31E paragraph (1) of the Income Tax Law of 50% of the normal corporate income tax rate in effect because the gross turnover obtained is not more than Rp4,800,000,000. Based on this, it is known that the corporate income tax payable using the FIFO inventory valuation method is Rp544,440.

**Table 12.** Profit and loss report of credit union X using average method

Credit Union X Profit and Loss Report Period of 31 December 2024			
Store Sales	Rp	10,667,000	
Total Sales			Rp 10,667,000
COGS of Store	Rp	8,366,506	
Total of COGS			Rp 8,366,506
Commission	Rp	74,800,000	
Other Income	Rp	39,000,000	
Total Commission			Rp 113,800,000
Total Income			Rp 116,100,494
Rent	Rp	4,000,000	
Wage	Rp	65,000,000	
Equipment Depreciation	Rp	4,200,000	
Management and Member Meeting	Rp	10,500,000	
Promotion	Rp	750,000	
Transport	Rp	300,000	
Bank Administration Fee	Rp	120,000	
Health Insurance (BPJS)	Rp	1,300,000	
Fixed Deposit Charge	Rp	25,000,000	
Total Expenses			Rp 111,170,000
Net Profit			Rp 4,930,494
Taxes	Rp	542,354	
Total Taxes			Rp 542,354
Net Profit After Taxes			Rp 4,388,140

Source: Data processed (2025)

## CONCLUSION

The results of the research on Credit Union X show that the calculation of COGS using the FIFO method for four product samples, namely Wipol Karbol Cemara, Pledge lemon pouch, 1 liter of Sania Cooking Oil, and Bay Fresh strawberry resulted in a total COGS of Rp8,347,544, and a total ending inventory value of Rp1,654,952. The calculation of COGS using the average method for four product samples, namely Wipol Karbol Cemara, Pledge lemon pouch, 1 liter of Sania Cooking Oil, and Bay Fresh strawberry, resulted in a total COGS of Rp8,366,506 and a total ending inventory value of Rp1,635,990. The comparison of the calculation of COGS using the FIFO inventory valuation method resulted in a difference of Rp18,962 (Rp8,366,506 - Rp8,347,544) lower than the average method. Low COGS will result in higher gross profit so that the tax that must be paid by the Credit Union is also higher. In addition, using the FIFO method will present a higher final inventory value than the average method. The calculation of corporate income tax uses the rate of Article 31E of the Income Tax Law, the tax payable for the FIFO method is Rp544,440 and the average method is Rp542,354, so for the efficiency

of corporate income tax payable it will be more profitable if the Credit Union uses the average method. However, when viewed from the profit, the Credit Union will get a higher profit if using the FIFO method.

This study has certain limitations, particularly that it only analyzed data from one year. For future research, it is recommended to utilize data spanning multiple years to better assess the tax savings achieved over time. For Credit Union X, it is advisable to adopt the average method to optimize income tax savings while ensuring compliance with relevant tax regulations.

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