

The Influence of Inventory Valuation Methods on Enterprise Management and Selection

Chen Zhiteng¹, Wei Haifeng²

¹School of Economics and Management, Jiangsu University of Science and Technology, Zhenjiang, China

²School of Electrical and Information, Jiangsu University of Science and Technology, Zhenjiang, China

Email address

774268267@qq.com (Chen Zhiteng)

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Abstract

Different enterprises have different management states and the need for inventory management. Besides, different inventory valuation methods have a certain impact on the financial situation, operating results and so on. Therefore, how to choose inventory valuation methods has an important significance on the enterprise management and development. This paper mainly analyzes and discusses the inventory valuation methods under the new standards in China, and provides reference for the enterprise management.

Keywords

Inventory Valuation Methods, Enterprise Management, Enterprise Selection

1. Introduction

All inventory enterprises are partial inflow and outflow, and inflows and outflows offset balance is the ending inventory. The ending inventory of this period will be carried forward to the next period and become the next beginning inventory. Then it will continue to flow, and so on in a circle, in order to form the inventory flow in the process of enterprise management. Inventory flow includes two aspects of the physical flow and cost flow. In fact, the cost of inventory is changeable and is not easy to control. What's more, physical flow does not necessarily have a regular and always consistent with its cost flow. Therefore, an assumption must be adopted. It reflects that there is a certain law between the material flow and cost flow, and determine the inventory cost and the physical flow of order according to the different cost of circulation. As a result, the way to calculate the cost of ending inventory and the issue of inventory cost will be determined.

2. Literature Review

In the daily enterprise management, the calculation methods of the inventory costs should be reasonably

determined according to the circulation mode of all kinds of inventory and the nature of the inventory, and then calculate the current actual inventory cost. [1] Material inventory and its cost determined by its value do not always keep the same order, which can make the inventory cost and value have a great impact on the whole enterprise value in each accounting final. [2]

The cost of issued inventory will be carried forward with the inventory sale or consumption. If the price of each batch of issued inventory is not exactly same, there will be a problem that how to value when the inventory are issued. If enterprises want to simplify the daily work, they have to take different inventory cost allocation methods, which is called the issued inventory valuation methods. Choosing the issued inventory valuation methods that conforms to the characteristics of the enterprises is the meaning of the valuation inventory methods. [3] Inventory valuation methods will affect the final value of inventory and cost of inventory sold, thus the financial position, profit and loss situation, corporate profits will directly affect the income tax of enterprises, so the cost of inventory indirectly affect the enterprise income tax. [4]

The inventory of liquid assets accounts for 1/2 of the overall flow of enterprise assets, which can be directly related to the

development of enterprises and the market situation. The sale of inventory can reflect the change of the market, and allows enterprises to adjust management strategy on time. [5]

Therefore, whether from theory or practice level, any enterprises should combine with its own actual situation, and within the scope of the law to choose the most beneficial inventory valuation method to enterprise management. [6] The inventory has been in circulation in the process of enterprise inventory. When enterprises value the cost of issued inventory and inventory held at the end of the month, they won't choose the actual cost of inventory, but separate the physical flow and the cost flow, so as to form the inventory cost flow assumptions. When using one kind of inventory cost flow assumption to calculate the cost of ending inventory and the issued inventory, the inventory cost pricing methods are different. [7] There is always a basic standard of the choice of specific inventory valuation methods, and this standard is the inconsistency of physical flow and cost flow. In general, physical flow is not consistent between outsourcing or homemade inventory and goods have been sold, so different inventory valuation methods should be taken to calculate the inventory cost in practice. [8]

For different enterprises, choosing the right kind of inventory valuation methods in financial accounting depends on the characteristics of their own products inventory and inventory management system as well as factors such as market price fluctuations. The best method is suitable for their

financial situation, and the enterprises will make more profits under this method. [9] The inventory valuation methods are influenced by the stage of accounting assumptions and accounting policies, which not only leads to different enterprise inventory valuation methods, but also caused the differences of the cost of the ending inventory issued and final valuation. Therefore, enterprises should reasonably choose the inventory valuation method according to their business development and inventory management. [10]

3. Results and Discussion

3.1. First in-First out (FIFO)

Inventory valuation methods under the new standards in China are mainly the following: First in-first out (FIFO), weighted average method, specific-unit-cost method.

First in-first out method refers to the method that inventory should be valued according to the valuation of first-in inventory price. The flow of the method assumes that the first-in inventory will be first-out. If the different batches of the inventory are sent out in the same batch, the unit cost to the inventory valuation should be in accordance with the actual unit cost of the first-in inventory. If the number of issued inventory is over the first income of the batch, the part over should be valued by the cost of the next batch of inventory.

Table 1. The data of commodity A in June of an enterprise.

Date	Abstract	quantity/kg	Unit cost/yuan	Total cost
June 1	Balance at the beginning of the month	300	10	3 000
June 10	Purchase	900	12	10 800
June 11	Emit	800		
June 18	Purchase	600	13	7 800
June 20	Emit	800		
June 23	Purchase	200	14	2 800

Table 2. The detailed ledger of commodity A under the first-in, first-out method.

Inventory Detailed ledger (FIFO)												
Name of inventory:A Category:commodity Number:68267 Unit of measurement:kilogram												
XX Year				Purchase			Emit			Balance		
Mounth	Day	Voucher	Abstract	Quantity	Unit cost	Amount	Quantity	Unit cost	Amount	Quantity	Unit cost	Amount
6	1	Omit	Balance							300	10	3 000
	10		Purchase	900	12	10 800				300	10	3 000
										900	12	10 800
	11		Emit				300	10	3 000	400	12	4 800
							500	12	6 000			
	18		Purchase	600	13	7 800				400	12	4 800
										600	13	7 800
	20		Emit				400	12	4 800			
							400	13	5 200	200	13	2 600
	23		Purchase	200	14	2 800				200	13	2 600
										200	14	2 800
	30		Quantity and balance at the end of this month	1 700	—	21 400	1 600	—	19 000	200	13	2 600
										200	14	2 800

According to the table 1, the issued inventory costs 19000 yuan under FIFO. The balance of inventory cost is 2600 yuan of 200 kilograms of inventory whose unit cost is 13 yuan, and 2800 yuan of 200 kilograms of inventory whose unit cost is 14

yuan. First in-first out method is suitable for the physical inventory system and the perpetual inventory system, and can make the value of inventory to converge with the price. It can also calculate the cost of inventory at any time. Enterprises

cannot select inventory cost arbitrarily. Therefore, they cannot manipulate the annual income.

However, this method makes the valuation work tedious, and the valuation of the inventory is not in accordance with the actual cost, which cannot reflect the income of enterprises correctly.

3.2. Weighted Average Method

3.2.1. Weighted-Average System

The weighted average method is divided into two methods,

$$\text{Inventory Average Unit Cost} = \frac{\text{The actual cost of inventory balance at the beginning of the month} + \text{The actual cost of this month's inventory}}{\text{The amount of inventory at the beginning of the month} + \text{The amount of inventory stored this month}} \quad (1)$$

Continue to use cases,

$$\text{The average unit cost of commodity A} = \frac{3000 + 10800 + 7800 + 2800}{300 + 900 + 600 + 200} = 12.2 \text{ (yuan)}$$

Table 3. The detailed ledger of commodity A under the weighted-average system.

Inventory Detailed ledger Weighted-average System												
Name of inventory:A Category:commodity Number:68267 Unit of measurement:kilogram												
XX Year	Day	Voucher	Abstract	Purchase			Emit			Balance		
Mounth				Quantity	Unit cost	Amount	Quantity	Unit cost	Amount	Quantity	Unit cost	Amount
6	1	Omit	Balance							300	10	3 000
	10		Purchase	900	12	10 800				1 200		
	11		Emit				800			400		
	18		Purchase	600	13	7 800				1 000		
	20		Emit				800			200		
	23		Purchase	200	14	2 800				400		
	30		Quantity and balance at the end of this month	1 700	—	21 400	1 600	12.2	19 520	400	12.2	4 880

According to the table 2, the issued inventory cost is 19520 yuan under weighted-average system. The balance of inventory cost is 4880 yuan of 400 kilograms of inventory whose unit cost is 12.2 yuan.

Weighted-average system is relatively simpler. The average unit cost of the inventory should be calculated only once at the end of the month, which can simplify the workload. However, in the case of large changes in price, the method is unable to obtain issue cost and inventory cost at the end of the month in time. The workload is relatively concentrated, and not

conductive to the management of inventory.

3.2.2. Moving Weighted Average Method

The moving weighted average method is a method that plus the number of previous income after each inventory balances and the batch of income inventory as weights, to calculate the new average price, and if there are issued inventory, the unit cost is the basis of inventory valuation. The formula of calculating inventory average unit cost is:

$$\text{Inventory Average Unit Cost} = \frac{\text{The actual cost of inventory balance before} + \text{Actual cost of the inventory stored this batch}}{\text{The actual cost of inventory balance before} + \text{The amount of inventory stored this batch}} \quad (2)$$

Continue to use cases,

$$\text{The average unit cost of commodity A in June 10} = \frac{3000 + 10800}{300 + 900} = 11.5 \text{ (yuan)}$$

$$\text{The average unit cost of commodity A in June 18} = \frac{400 \times 11.5 + 7800}{400 + 600} = 12.4 \text{ (yuan)}$$

$$\text{The average unit cost of commodity A in June 23} = \frac{200 \times 12.4 + 2800}{200 + 200} = 13.2(\text{yuan})$$

Table 4. The detailed ledger of commodity A under the moving weighted average method.

Inventory Detailed ledger Moving Weighted Average Method												
Name of inventory:A Category:commodity Number:68267 Unit of measurement:kilogram												
XX Year		Voucher	Abstract	Purchase			Emit			Balance		
Mounth	Day			Quantity	Unit cost	Amount	Quantity	Unit cost	Amount	Quantity	Unit cost	Amount
6	1	Omit	Balance							300	10	3 000
	10		Purchase	900	12	10 800				1 200	11.5	13 800
	11		Emit				800	11.5	9 200	400	11.5	4 600
	18		Purchase	600	13	7 800				1 000	12.4	12 400
	20		Emit				800	12.4	9 920	200	12.4	2 480
	23		Purchase	200	14	2 800				400	13.2	5 280
	30		Quantity and balance at the end of this month	1 700	—	21 400	1 600	—	19 120	400	13.2	5 280

According to the table 3, the issued inventory cost is 19120 yuan under the moving weighted average method. The balance of inventory cost is 5280 yuan of 400 kilograms of inventory whose unit cost is 13.2 yuan.

The Moving weighted average method is a method that recalculate the average unit cost of the inventory every time the inventory are stored, and can calculate the actual cost of inventory accounting at any time to make the inventory cost and real cost similar, which is helpful for inventory management of enterprises.

However, this method is more complicated and cannot be applied to enterprises of the physical inventory system.

3.3. Specific-Unit-Cost Method

Specific-unit-cost method, which is also called the specific identification method or the analysis method, is a method that the directly issued inventory cost and the balanced cost is the unit cost of the inventory stored.

Continue to use cases,

Table 5. The detailed ledger of commodity A under the specific-unit-cost method.

Inventory Detailed ledger Specific-unit-cost Method												
Name of inventory:A Category:commodity Number:68267 Unit of measurement:kilogram												
XX Year		Voucher	Abstract	Purchase		Emit			Balance			
Mounth	Day			Quantity	Unit cost	Amount	Quantity	Unit cost	Amount	Quantity	Unit cost	Amount
6	1	Omit	Balance							300	10	3 000
	10		Purchase	900	12	10 800				300	10	3 000
										900	12	10 800
	11		Emit				200	10	2 000	100	10	1 000
							600	12	7 200	300	12	3 600
										100	10	1 000
	18		Purchase	600	13	7 800				300	12	3 600
										600	13	7 800
	20		Emit				200	12	2 400	100	10	1 000
							600	13	7 800	100	12	1 200
										100	10	1 000
	23		Purchase	200	14	2 800				100	12	1 200
										200	14	2 800
										100	10	1 000
	30		Quantity and balance at the end of this month	1 700	—	21 400	1 600	—	19 400	100	12	1 200
										200	14	2 800

According to the table 4, the issued inventory costs 19400 yuan under specific-unit-cost method. The balance of inventory cost is 1000 yuan of 100 kilograms of inventory whose unit cost is 10 yuan, 1200 yuan of 100 kilograms of inventory whose unit cost is 12 yuan, and 2800 yuan of 200 kilograms of inventory whose unit cost is 14 yuan.

The valuation of the inventory cost under the specific-unit-cost method is in line with the actual situation of the inventory. The physical flow and the cost flow are consistent, and the cost of accounting is the most accurate.

However, this method is difficult to calculate the actual accounting. The valuation is complicated and is easy to be

manipulated by enterprises. Besides, adjusting inventory cost randomly is bad for the development of enterprises.

4. Conclusion and Recommendations

Inventory must meet the conditions that the cost of the inventory can be reliably measured and the economic benefits included are likely to flow into enterprises. Choosing different inventory valuation methods will have different effects on the current profits and losses in the year of accounting. Based on the assumption that the first-in inventory is first-out, first in-first out method is suitable for the fresh perishable inventory valuation. The unit cost will be calculated from the average under weighted-average system when prices rise or fall, making the allocation of inventory cost is average. Weighted-average system is suitable for a small inventory valuation price changes. The weighted moving average method makes the average unit cost, income of inventory issued and balances inventory cost objective. The method is suitable for the enterprises that generally uses the perpetual inventory system to value inventory whose unit cost haven't changed too much.

Under the specific-unit-cost method, the enterprises can choose the inventory cost when the prices rise or fall, and is easy to manipulate the current profits. So this method is applicable to the inventory whose unit cost is high, the quantity is not too much, and is easy to identify.

Therefore, enterprises should choose inventory valuation method reasonably for the further development according to their business situation and the need for inventory management. Once the inventory valuation method has been determined, it should not be arbitrarily changed.

References

- [1] Zhou Pinggen. The influence of inventory accounting method on accounting profit and its audit findings [J]. Commercial Economy, 2011, (22): 102-103. (in Chinese).
- [2] Han Liping. Research on the impact of inventory valuation methods on Accounting [J]. China Township Enterprises Accounting, 2016, (5): 140-141. (in Chinese).
- [3] Gu Mengqi. Introduction to the choice of inventory valuation methods [J]. Economic Research Guide, 2014, (32): 278-279. (in Chinese).
- [4] Zhao Yamei. The effect of inventory valuation methods on financial information [J]. Guide to Business, 2014, (15): 58-59. (in Chinese).
- [5] Yan Peng. Discussion on the valuation method of inventory issued [J]. Market Modernization, 2014, (20): 42-43. (in Chinese).
- [6] Zhang Meixing. The effect of inventory valuation method on Enterprise Accounting [J]. China Market, 2013, (10): 62-63. (in Chinese).
- [7] Dai Lijuan, Zhang Xiaobing. Analysis on the influence of the choice of inventory valuation methods [J]. CO-Operative Economy & Science, 2013, (3): 67-68. (in Chinese).
- [8] Wu Nana. The choice of inventory valuation methods under the new standards in China [J]. Chinese Agricultural Accounting, 2008, (4): 30-32. (in Chinese).
- [9] Li Wei. The different effects of inventory valuation methods on its accounting [J]. Commercial Accounting, 2013, (9): 84-85. (in Chinese).
- [10] Li Yufeng. Analysis on the influence of the choice of inventory valuation methods on enterprises [J]. China Business Update, 2013, (22): 219-220. (in Chinese).