

GLOBAL DIVERSITIES IN FINANCIAL REPORTING: COMPARATIVE ANALYSIS OF INVENTORY VALUATION METHODS IN RELATION TO US GAAP AND IFRS

Sandra Zajmi²³²
Marko Paic²³³

<https://doi.org/10.31410/itema.2018.579>

Abstract: *Financial statements are one of the fundamental methods in which information is provided about the company, its shareholders, potential investors and other stakeholders. The loss of credibility of these reports resulted from the collapse of several large companies and expanded, through the process of globalization, across national borders and became an international problem. Research has shown that misleading financial reporting is always the result of a combined effect of bad business, management and financial reporting. Since financial reporting is a national but also an international issue, in order to protect investors, a number of studies have been launched at both levels to identify the main causes of the loss of credibility of the reporting and take steps towards its raising. Although the reporting framework in which companies operate is primarily national, international steps are necessary to ensure harmonization in financial reporting.*

Although as a result of discussions about diversity in accounting and auditing, there are already extensive studies, research works and numerous official bodies that address these issues, both national and international, that fact do not cease the need to continue to explore ways to achieve greater harmonization in standards and principles relevant for financial reporting, which include both accounting standards and principles and financial reporting standards. The advantages of harmonizing these principles have long been known, and in the first place involve the possibility of investing beyond national borders, which would exclude the necessary revisions of financial reports according to the standards of the other country in which they want to invest. The major global harmonization in accounting exists in the harmonization between US GAAP and IFRS (International Financial Reporting Standards). Great progress has already been achieved in the harmonization of the principles, primarily in the domain of Mergers and Acquisitions (M&A). Although the differences between these two concepts are extensive, primarily in the methodology itself and the nature of the principles, one of the main ten differences, and also the main stumbling block in harmonization, belongs to the category of inventories. Many of the IFRS principles have been adopted or mitigated in GAAP, but the fact that the LIFO inventory management method is permitted in GAAP, but not in the IFRS, remains one of the main issues of harmonization. The work of the authors wants to present the LIFO method, once again, as a good alternative to inventory management, which should be reviewed in IFRS, since the IFRS principles are prepared exclusively for stable or deflating economies, which is often not the case in view of the financial crisis. The paper includes a comparative analysis of the main allowed methods of inventory management and the LIFO method, from the aspect of financial result, the amount of the inventory end-value, the profit tax and the main financial indicators in the conditions of inflation. The main results of the analysis explain the reasons for defending the application of the LIFO method in inflationary conditions, and consider that the global accounting principles, which are the ultimate goal of general

²³² R&B College, Belgrade, Serbia

²³³ R&B College, Belgrade, Serbia

harmonization, include this method as permitted, since, as the research intends to show, it corresponds more to the inflationary conditions.

Keywords: *International financial reporting, global harmonization of accounting, inventory, LIFO method in valuation of inventory, GAAP, IFRS*

INTRODUCTION

International Financial Reporting Standards (IFRS) is the accounting method that's used in many countries across the world. It has some key differences from the Generally Accepted Accounting Principles (GAAP) implemented in the United States. There are numerous differences between IFRS and GAAP, like IFRS is a globally accepted standard for accounting, and is used in more than 120 countries. On the other hand, GAAP is exclusively used within the United States. Furthermore, IFRS is principle-based, but GAAP is rule-based. Under GAAP, a company is allowed to use the Last In, First Out (LIFO) method for inventory estimates. However, under IFRS, the LIFO method for inventory is not allowed. Although, there are a great number of differences, this research will focus on differences related to Inventory methods.

International Accounting Standard 2-The inventory was published by the International Accounting Standards Committee in December 1993. When it comes to amendments to IAS 2 for the method of calculating the end value of inventories, they are processed in IAS 2 BC (BC - Basis for Conclusion) in paragraphs BC 9 to BC 21. BC (Basis for Conclusion) are not official parts of IAS, but only more detailed explanations of the IAS, i.e. changes made in the standard.

LIFO method gives the Income Statement, measured by newer up-to-date values, but also the Balance Sheet, measured by old outdated prices. All BC are parts of IAS 2 BC, i.e. the paragraphs outlining the reasons for abandoning the LIFO method. The list of reasons is not a complete list and this research will select those reasons that correspond with the aspects that will be used in the research, in order to link the aspects and remarks contained in the BC.

Within the scope of IAS 2 BC 12, it is suggested that the use of LIFO method in financial reporting is often governed by tax policy, perhaps most often, because it leads to the cost of sold goods being calculated, using the latest prices that are deducted from revenue when determining the gross margin. LIFO method reduces (increases) the profit in a way that reflects the effect that the increased (reduced) prices would have on the costs of replacing the sold stock to others. However, the Board considered that the effect depends on the relationship between the prices of the latest stock purchases and end-of-term replacement costs, and that it is not really a systematic method for determining the effect of changes in prices in relation to profit. The committee was sent to more than 160 letters to support the LIFO method (we will remind that the method is allowed in the US, and that there was an intent of harmonization between US GAAP and IFRS), mostly due to tax effects for using this method. Afterwards, the Board pointed out that it is known that in some jurisdictions, the use of LIFO method for taxation purposes is possible only if that method is used for accounting purposes (the so-called LIFO conformity rule, stipulated in the United States). However, it was concluded that tax issues do not provide the appropriate conceptual basis for the selection of an adequate accounting procedure, and it is unacceptable to allow a less appropriate accounting procedure, just because of tax regulations and tax advantages in certain legislations. Nevertheless, the local tax authorities were urged to address this issue. For this reason, a comparative analysis will include

the aspect of profit tax, although it is based on the analysis from the aspect of the impact on the financial result in a certain way. We believe that there is no need to further emphasize the importance of tax regulations and their impact on the management of corporate governance in business.

What is perhaps the most important part of the BC about IAS 2- Inventory, in BC 13, is that the application of LIFO method leads to inventories in Balance Sheet, being recorded at amounts that have little to do with recent levels of purchase value/cost price of inventories, which is absolutely correct, especially if the assumption of inflation is introduced, which IAS do not use. On the other hand, it gives a correct picture of profit or loss. According to BC 13, it is much more important to give a realistic picture of the value of the inventories than the result, i.e. it should not be allowed to use the method which leads to the measurement of profit or loss for a given period that is not in accordance with the measurement of inventory values for the needs of the Balance Sheet. However, as the results of the research will show, it is completely opposite. In this regard, we will present a comparative analysis from the aspect of the impact on the financial result, from the aspect of the business ratio analysis, and of course from the aspect of the end value of inventories and LIFO reserves (which occurs when using LIFO method and which is cited as another negative consequence of using this method).

SUMMARY REVIEW OF RESEARCH RESULTS AND CONCLUSIONS

Below is a summary of the results of the research given according to the aspects, defined in the research methodology:

Table 1: Summary of research results

<i>Selected criteria</i>	<i>Method of calculation of inventory value</i>		
	<i>LIFO(Last In First Out)</i>	<i>FIFO(First In First Out)</i>	<i>AC (Average cost method)</i>
Financial result	Lowest in inflation, Highest in deflation conditions	Average level	Highest in inflation, Lowest in deflation conditions
LIFO reserve	<i>Lower costs in the conditions of monetary stability and deflation - the purchase value of goods sold Higher costs in inflation conditions</i>	<i>Higher costs in the conditions of monetary stability and deflation - the purchase value of goods sold Lower costs in inflation conditions</i>	-
The end-value of inventories	<i>The lowest level of inventories in inflation conditions</i>	<i>The highest level of inventory value</i>	-
Income tax	<i>Higher in the conditions of deflation, lower in conditions of inflation</i>	<i>Lower in the conditions of deflation, higher in conditions of inflation</i>	Average results
Performance indicators (ratio analysis) in conditions of inflation			
<i>Selected criteria</i>	<i>Method of calculation of inventory value</i>		

	<i>LIFO(Last In First Out)</i>	<i>FIFO(First In First Out)</i>	<i>AC (Average cost method)</i>
Business efficiency	<i>Best results</i>	<i>Worst results</i>	<i>Average results</i>
Profitability	<i>Worst results</i>	<i>Best results</i>	<i>Average results</i>
Solvency	<i>Worst results</i>	<i>Best results</i>	<i>Average results</i>
Liquidity	<i>Worst results</i>	<i>Best results</i>	<i>Average results</i>

Source: Research of authors

Conclusions of the research- comparative analysis of methods of inventory valuation in terms of the impact on the financial result

So, as we can see, in conditions of inflation, the result will be the lowest in the case of a periodic LIFO method, while it will be the highest in the case of a permanent AC method. None of the methods allow representing, in the best possible way, the value of the inventories, as well as the amount of the cost of goods sold (expenses), at the same time.

If the circumstances are such that none of the methods available cannot fulfill both objectives at the same time (real value of assets and result), then a method that prevents overestimation of the periodic result must be chosen, regardless of the consequence that the value of the assets will be underestimated. The effect of underestimation of assets corresponds to the principle of caution, but leads to the formation of latent reserves. When choosing one method, there is an obligation, in accordance with the principle of continuity, that the chosen method is applied continuously, in a series of successive periods, in order to ensure the comparability of the financial statements. These conclusions are in contradiction with the conclusions of BC 13, according to which it is more important to give a realistic picture of the inventory value than the result.

The lowest financial result may be ostensibly unattractive for users of financial reports, both internal and external, especially in terms of inflation, but only the objectively measured result may correspond to business goals, and what is very important that it must not lead to outflow of assets from the company, based on distribution of dividends, payment of tax duties, and other similar obligations. Management should not be guided by attractive results, but the most objective one, because otherwise, in the future, because of the outflow of funds, and those resources that do not exist in reality, the company could have very unattractive results.

1. Conclusions of the research- comparative analysis of methods of inventory valuation in terms of the end value of inventories and LIFO reserve

When it comes to the formation of LIFO reserve and the end value of the inventories, the results indicate that the end value of inventory is always higher by FIFO method, which contradicts the principle of lower value, expenses are lower by FIFO method, and the result by this method is higher than by using LIFO method, which also contradicts the principle of caution. The amount of LIFO reserves contained in the end value of inventory will be resolved when selling the goods containing this reserve, and in the same time, income will be made, on this basis, which will cover the expenses.

Under inflationary conditions, the application of LIFO method is actually preferred, because the value of the used inventory will be calculated at the prices closest to the current market prices, which means that the expenses in the Income Statement will be calculated in real terms.

Of course, the value of inventories in the Balance Sheet will then be calculated at the prices of the first purchases, which are lower than the current market prices, so in the inflationary conditions, the application of this method will cause the underestimation of inventories and the creation of latent reserves in value of inventories. This is one of the reasons why LIFO method has been challenged, with the assertion that it is inadmissible to underestimate the value of inventory in the Balance Sheet, with LIFO method having such an effect. This argument can be immediately contradicted by the fact that some other methods also lead to underestimation of property, such as a digressive method in the write-off of fixed assets, and yet no one is disputing the application of the digressive write-off method. There is another, much stronger argument, that is, if one should choose between the real income statement, that is, the real calculated periodic result and the real value of the inventory, then it is certainly necessary to choose a realistic calculated periodic result, because from the existence of latent reserves, i.e. the fact that the inventory value is underestimated, companies are not at any kind of risk. There is no risk in underestimation of inventory, but the risks become serious, when it comes to expressing an overestimated result.

2. Conclusions of the research - comparative analysis of methods of inventory valuation in terms of income tax

Conclusion related to the level of income tax, depending on the use of different methods of calculating the end value of inventories, could be carried out in the direction that LIFO method would achieve numerous savings in tax payments in condition of inflation, which would significantly improve the company's liquidity position and reduce cash outflows. Not only does a lower tax base mean lower tax payments, it also means the refusal to competition entering a particular branch to which the company belongs. Professional managers and financial analysts, using LIFO method to calculate the value of inventories, (if that was allowed through the IAS in financial accounting), would reduce the tax base, without resorting to any inventory fraud or blurring and counterfeiting of the Balance Sheet over the value of inventories, which became very common, because these are very difficult to reveal in the inventory audit process, both internal audits and external audits.

3. Conclusions of the research- comparative analysis of methods of inventory valuation in terms of financial ratio analysis (performance indicators)

When it comes to business performance indicators, LIFO method gives us the best results in business efficiency, followed by AC method and, finally, FIFO method. Conversely, in terms of profitability, LIFO method yields the worst results, due to the lowest net profit it produces, followed by AC method, and the best results of profitability are, therefore, given by FIFO method. The table also showed us results obtained by analyzing the company's solvency (long term liquidity). LIFO method, again, gives the worst results, followed by AC method and the best results of solvency gives FIFO method. Since solvency measures the protection of creditors and those who have placed their assets in the long run in the company, the company managers will take advantage of this fact, (that the best results of solvency are given by FIFO method), and will always rather select this method, as the results by this method will attract more long-term investors and creditors. LIFO method would give the worst results in solvency indicators, and it would be uninteresting for managers, no matter that it actually gives the most realistic results.

We can expect the highest liquidity when applying FIFO method, then with AC method, and the lowest liquidity is expected by LIFO method. Again, the most realistic inventory method in terms of results, but not the level of inventory, gives the worst liquidity. This is exactly the effect of a careful measurement of the inventory value and result. On the other hand, given that liquidity means the ability of the company to pay its due liabilities, while maintaining the required level and structure of working capital, the worst credit rating will be shown by the company applying LIFO method, and apparently the best credit rating will be shown by the company applying FIFO method.

In other words, all the indicators, with the exception of business efficiency indicators, show the worst results using LIFO method, and the best with FIFO method. Managers and financial managers will therefore always rather select FIFO method of valuation of inventories and show unrealistic and higher result and values of assets and, consequently, seemingly better profitability, liquidity and solvency rates, to attract creditors and investors or to blur the financial success and position of the company, and thereby mislead both existing owners and other interested public.

4. Conclusions on the effect of inflation on inventories and the impact of using valuation methods on the comparability of financial statements

The effect of inflation on inventory can be neutralized using LIFO method. By applying this method, the effects of inflation on the company's result are eliminated, and in those economies where companies operate in conditions of monetary instability, the management of the company should reach for this method in order to determine the distributable periodic result. As already demonstrated, FIFO method (permitted by IAS 2) under inflationary conditions can cause serious difficulties, as in the estimation of inventories, the prices of previous purchases will be used, which are lower than the current market prices, and in inventory will remain material or goods that are presented in the prices closest to the current market. Under the inflationary conditions, the application of this method will lead to overestimation of the periodic result, while the inventories will be assessed in real terms, bearing in mind that the prices of the latest procurements will be used for their evaluation. The consequences that overestimation of the result may have are huge for the company, which means an increased volume of outflows from the company, through the distribution of such result. If, in the inflationary conditions, FIFO method is applied, than at least, at the distribution of the result, it must be taken into account, that the distributed result, should not include the result that it is not actually the result, i.e., that the inflationary component of the result is calculated and that its distribution is disabled. This method was proclaimed by the IAS as a basic method, along with the average cost method (AC), and LIFO method (which was an alternative method) was abolished because the economy is operating or should operate in relatively stable conditions. In the light of the latest developments in the economy, recession and the global economic crisis, this starting hypothesis is questionable. Therefore, FIFO method should be used in those economies that feature deflation, as a monetary phenomenon, i.e. where there is a strengthening of the domestic currency, because only in such circumstances the application of FIFO method can provide a real periodic result.

This is because the value of the used inventory is determined at the prices of the first purchases, which prevents overestimation of the result, and inventories are estimated at the prices of the

last purchases. For us, who live in an inflationary environment, where there are only differences in the level of inflation, it's strange that FIFO method is taken as a normal procedure.

If there is a high turnover inventory ratio, if the structure of inventories is constantly changing, if the value of inventories in total assets is not high, then the bad effects of FIFO method will be somewhat alleviated, in the conditions of price growth.

The application of AC method will give the real value of inventories and result, but only in the conditions of monetary stability. In situations where prices are slightly rising and falling, oscillating around an average, then the application of AC method will give just relatively realistic value of inventories and expenses.

CONCLUSION

As already demonstrated, FIFO method (permitted by IAS 2) under inflationary conditions can cause serious difficulties, because the application of this method will lead to overestimation of the periodic result, while the inventories will be assessed in real terms. The consequences that overestimation of the result may have are huge for the company, which means an increased volume of outflows from the company, through the distribution of such result.

The effect of inflation on inventory is neutralized using LIFO method. By applying this method, the effects of inflation on the company's result are eliminated, and in those economies where companies operate in conditions of monetary instability, the management of the company should reach for this method in order to determine the distributable periodic result.

Therefore, if one should choose between the real Income Statement, that is, the real calculated periodic result and the real value of the inventory, then it is certainly necessary to choose a realistic calculated periodic result, because from the existence of latent reserves, i.e. the fact that the inventory value is underestimated, companies are not at any kind of risk. There is no risk in underestimation of inventory, but risks become serious, when it comes to expressing an overestimated result.

Since, in the inflationary conditions there is no method that can provide a real Income Statement and a real Balance Sheet, the choice should always be made in the method that will not allow overestimation of the result, while accepting the fact that the application of this method will lead to underestimation of the company's assets. This is the reason for defending the application of LIFO method in financial reporting. As a major advantage of this method, it is considered that, the incomes generated in the current accounting period are opposed to expenses that are calculated at current market prices. In this way, it is possible to provide income and expenses in monetary units, at least approximately, of equal purchasing power. As a consequence, a realistic calculated periodic result is obtained.

Standpoints of professional world associations, dealing with standardization in accounting, are changing with regard to the application of methods meant to neutralize the impact of inflation on the Balance Sheet. Many authors consider that the applications of these methods are demanding and very costly. For this purpose, the application of historical values in the financial statements, in inflation conditions, would be lessened by the use of LIFO method of inventory

valuation, especially in those companies that have high percentage of inventory in relation to current and total assets.

This topic, in general, is only one of many insufficiently investigated issues, whose professional processing is one of the priority requirements in order to determine the effects of the development of International Accounting Standards and professional regulations, to define necessary activities in direction of increasing the level of harmonization with GAAP and thus improving this matter in our literature, science and practice.

REFERENCES:

1. <https://www.firmofthefuture.com/content/top-10-differences-between-ifrs-and-gaap>
2. FASB Accounting Standards Update, No.2015-11, Inventory (Topic 330), pages 7-37
3. PriceWaterhouseCoopers (2014). *IFRS and US GAAP similarities and differences*. Retrieved from <https://www.pwc.com/us/en/issues/ifrs-reporting/publications/assets/ifrs-and-us-gaapsimilarities-and-differences-2014.pdf> pages 93-94,
4. Sanko H., Koldovskyi A.V., *Comparative analysis of IFRS and US GAAP (2017)*, Financial Markets, Institutions and Risks, Volume 1, Issue 1, 2017
5. American Institute of Certified Public Accountants (2016). IFRS FAQs. Retrieved from http://www.ifrs.com/ifrs_faqs.html#q3
6. Deloitte (2015). Use of IFRS by jurisdiction. Retrieved from <http://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs>.
7. Hlaciuc, E., Grosu, V., Socoliuc, M., & Maciuca, G. (2014)., Comparative study regarding the main differences between US GAAP and IFRS., *USV Annals Of Economics & Public Administration*, 14(2), pages 140-145,
8. McEnroe, J.E., & Sullivan, M. (2014). The rise and stall of the U.S. GAAP and IFRS convergence movement. *CPA Journal*, 84(1), pages 14-19,
9. Satin, D., & Huffman, T. (2015). FASB and IASB convergence: Asymptotic relationship or transmogrification? *Academy Of Accounting & Financial Studies Journal*, 19(2), pages 239-249.