

## **The suitable Method to Depreciate the Fixed Assets under Inflation: Review Paper**

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**Abstract:** Nowadays, after corona pandemic many countries have some crises because interaction between several factors cause of inflation as Egypt, Turkey and Yemen. The inflation is increasing every year and this will affect the financial statements of companies. This paper was written to explore the suitable method to depreciate the fixed assets under the inflation. Also, this paper discussed the opinions in this dilemma. This research was raised this question what are the suitable depreciated methods to calculate the depreciation expense under inflation circumstances? This research refers to the historical cost and fair value when measured costs of fixed assets. The methodology was used is deductive and historical approach through reviewing the papers, articles and science books that referred this problem and collecting information from internet. Depreciate the assets is the one of the problems that were faced the accountants when they prepared the financial statements because the depreciation will effect on the income statement and balance sheet. So, the profit will be affected according to the method was used, whether by increased or decreased. Through this paper discussed depreciation methods. At the end, the results concluded to the suitable treatments of depreciation and that support best opinion. This paper found that consistency is an important principle in accounting when preparing the financial statement. In consequence, all the methods are good but when the companies face like this situation should change policies according to the suitable treatments and referred the changes in clarification and notes to the financial statements according to standards of accounting. Furthermore, the decline method is the suitable method to depreciate the assets under the inflation circumstance.

**Keywords:** accounting, depreciation, fixed assets, financial statement.

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### **Introduction:**

Accounting for fixed assets in business organizations is one of the most problematic areas of the accounting system, which has a significant impact on the composition of activities' financial results. Fixed assets are one of the productive resources of commercial companies, and their use is associated with many internal and external production factors (Hafis, 2021). Monetary unit principle is a unit of measurement all elements of financial statements which is one of the basic assumptions on which accounting depends. Monetary unit is a basis for recording in journals as a means of exchange and a measure of values and assuming that it is fixed and unchanged. The monetary unit is no longer a constant measure under inflationary conditions. However, it is a variable measurement and depend on its purchasing power, which differ from one country to another by high increasing or low because interact between several factors and influences. So because of inflation conditions in countries, historical cost is no longer a real measure of assets and depreciation methods no longer give accurate information about companies from this point of view. The researcher noted that under inflation conditions and high prices prevailing in the global economy with rapid technical progress, the accounting system in which assets are recorded at historical cost has lost much of its credibility as the accounting system no longer gives accurate information that helps management in making the sound decisions to develop the enterprise (Tabakha, 1998). In addition, there are several parties in companies that were reflected in interests. So depreciation of assets depends on many methods according to the interest of management because they have decision of the company. Some companies prefer to reduce the expense to maximize the profit and to get their share from it in the beginning years. However, some stock holders need to cover the asset costs in the beginning years. And also, a government that presented by tax unit desire to has got a share of profit through enforce companies to use method of depreciation that the country was determined. Furthermore, there are some criteria that effect on value of depreciation there is: first salvage value which means the value that the company will get after finishing its useful life. Second useful live in which fixed assets will operate. Third depreciation values which the net value that the company needs diminishing it (Aparicio & Sánchez-Soriano, 2008). This paper attempts to investigate this problem and attempts to find the best way of depreciation under inflationary conditions. Contribute to raising the scientific community to search for alternatives and think about finding realistic and fair solutions. And determine the suitable method of depreciation that will be faithful for different parties under inflationary environment. Paper study depends on deductive previous books and internet websites. The result of

this paper, The depreciation represents in the systematic matching of historical cost with the revenue that it helps generate (Reed, 1989). And the companies through the depreciation attempt to replace the old assets and purchase new one more suitable that means refers to robust of companies when always endeavor to changes old assets.

#### **The goals of research:**

To highlight the methods of depreciation

- Discover the suitable method of depreciation under the inflation circumstance.
- Collecting the opinions of researchers and selecting the best treatment.
- Referring to the characteristics of every method.

This research divided to five sections. Section one contain the introduction and previous studies. Section two was discussed the pros and cons of essential methods of depreciations. Section four was discussed the characteristics that should be suitable under inflation. Section four was concluded the results and cited some recommendations to the interest parties.

#### **Previous Studies:**

There are many studies attempted to treatment this dilemma from difference aspects. The (Comiskey, 1971) investigate the phenomena of changes from accelerate depreciation method to straight line method that appeared in steal companies in 1968 and this paper discovers that the changes from ACL method to SL method cause to increase the earnings per share EPS. The change from ACL method to Method while increase the EPS does not produce any real improvement in firm performance. This papers highlight the implicate causes of changing from ACL method to SL method which the management incentive to increase the profit during the beginning years and this reflect the picture of sufficient of management and give them soundness.

(FELDSTEIN, 1981) discussed this problem through make comparison between accelerate depreciation method and indexing under inflation environment and discovered that the decisions should make by the reader himself to use the best way or suitable method of depreciation. And mentioned that there are some similarities between accelerate method and indexation in different level of inflation also, all of them make the treatment of cost less sensitive to the inflation.

(Jackson et al., 2009) This study talked to some interrelated reasons why the choice of companies "method of depreciation is likely to influence managers' capital investment decisions. This research used the inductive and deductive approach and found that "Companies that use the accelerated depreciation method have greater investments than those that use the straight line depreciation method. Conversely, companies that have moved from accelerated depreciation method to straight-line depreciation method over the past 20 years make smaller capital investments in the post change periods than before. The results of this study indicated that the choice of depreciation method for external financial reporting affects managers' decisions on capital investment.

(Zuca, 2013) the researcher highlight that this paper based on deductive and analytical research referred to a number of conclusions that could merely be a relative results. Where there are several options for registering the same transactions, it cannot be said that there is objectivity. However, this will lead to personality result. Personality arises from the choice of a rule or option involving the cancellation of a rule or other option. For example, when the management are choosing a method of depreciation, whether accelerated or fixed or the number of units of production. This selection game affects the financial statements, albeit implicitly in the accounting results. The issue of the accounting policy's determination standard is raised by the existence of accounting options. From the limits of accounting principles, information producers call for different ways to shape the end result down to distortion.

(Caylor & Whisenant, 2019) In this paper investigated and argument that the companies prefer the ACL method when they depreciation their assets. Despite of there are some shortness in this method and the voluntarily selected the way of depreciation create confusing when analysis the statement and these sometimes return to the management incentive to select the way of depreciation according to their positions.

(Hafis, 2021) this research has been carried out on the credibility of the depreciations in the event that the asset is dispensed and a new asset is replaced by reliance on the depreciation pool. The research used methods of comparative analysis and inference as well as conclusion. This research found that the current rules for calculating depreciation discounts for fixed assets and their reflection in accounting and reporting do not provide a reliable reflection of the realities of an enterprise's economic activity because of its reliance on historical cost as the overall price level changes. This in turn leads to a misunderstanding by relevant users of the contents of the financial position statement, the profit or loss statement and other overall revenue.

### **Background and Discussions:**

#### **Part one: fixed assets and depreciations.**

##### **The principle of accounting**

- 1- Objectivity: One of the most important accounting objectives to reach them to beneficiary internal and external users with reliable and verifiable financial information. This information assists management in decision-making and thus provides them with a considerable degree of objectivity and therefore reliability on accounting statements.(Bahomaid, 2014).
- 2- Monetary unit: The common unit for the evaluation of items in the financial statements. This monetary unit requires the use of nominal value as evidence, thus ignoring any change in the value of assets and liabilities as a result of inflation or contraction.(Bahomaid, 2014).
- 3- Revenue realizing principle: This principle requires that any changes in the value of assets and liabilities be recognized only after they have already been achieved through an exchange with an external party whether received cash or not. (Bahomaid, 2014).
- 4- revenue versus expenses principle : income is required to be determined by comparing the revenue period with the costs of this period only, not by comparing the net value of assets in the first and last accounting period (Bahomaid, 2014)
- 5- Continuity assumptions also consistent with the historical cost principle that the accounting unit continues to exercise its normal operational activity in the foreseeable term so that it can utilize the potential of its assets to achieve its objectives, as current values need only be used in the event of liquidation.
- 6- The principle of reservation and caution: The rise in asset prices is ignored through this principle and this will lead to their reflection in the list of financial position in conservative and low values.
- 7- Principle of actual measurement: This principle requires that proof in the books and financial statements must be limited to what has actually been done according to the original values, that is, the principle of cost requires a genuine exchange of rack and measurement. This provides greater objectivity and reliability and additions to the aforementioned points is considered the principle of the best historical cost of a taxing consent. It provides provable evidence of financial transactions, and administrative and demonstrable suitability are important issues in any tax system to reduce management costs and tax evasion

A special aspect of the tangible assets' depreciation, prescribed by IAS 16

"Assets, concerns the depreciation per components. It can be used if two circumstances are concurrently met: future economic benefits are likely to be generated for the company and the cost of the assets can be credibly evaluated." Also, IAS 16 the International Financial Reporting Standards cite that each part of an element of tangible assets with a significant cost related to the total cost will depreciate separately. There are two types of components: elements to be replaced and the expenses generated by the multiannual verifications made to identify malfunctions. These expenses must not be mistaken for the current repairs which must be recorded directly in the loss and profit account.

The component to calculate the depreciations according the IAS 16;

**Cost of assets** Cost is the amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire an asset at the time of its acquisition or construction or, where applicable, the amount attributed to that asset when initially recognized in accordance with the specific requirements of other.

**Depreciable amount** is the cost of an asset, or other amount substituted for cost, less its residual value.

**Salvage Value or Entity-specific** value is the present value of the cash flows an entity expects to arise from the continuing use of an asset and from its disposal at the end of its useful life or expects to incur when settling a liability.

##### **Useful life is:**

- (a) the period over which an asset is expected to be available for use by an entity ; or
- (b) the number of production or similar units expected to be obtained from the asset by an entity.

The methods that was used to assignment part of historical cost of asset during the long live. And the company save the account of accumulated to replace it when was finished or disposal. Thus, the depreciation can be characterized as:

- A gradual transfer of fixed assets under the influence of processes of wear to the cost or expenses of the period.
- The formation of the fixed capital reproduction financing source in the transformation of depreciation in the form of money (Sigidov et al., 2016).

### **The common depreciation methods**

According to the (Alibhai et al., 2021) ISA no (8) standards refer that the management can use the suitable depreciation method and mention that the company should be constantly the method and if they changed the method should refer that at the disclosure of statements.

**Straight Line Method:** This method is commonly used since it is quite simple as it replaces the time function with the utilization function in the depreciation formula. Also called the regular depreciation method, this method is based on the principle of applying the fixed percentage found according to the asset's service life to the value which remains after deducting the salvage value from the fixed asset's cost. In Straight Line method, the asset's depreciation expense is fixed during its useful life as long as the residual value remains the same. Straight Line Depreciation formula is as follows:

Annual Depreciation Amount = (Cost of Fixed Asset – Residual Value) / Estimated Useful Life.

**Declining Balance Method:** In this method, depreciation expense decreases during the asset's useful life. It is based on the calculation of an asset's depreciable value with the help of decreasing fractions throughout its economic life. Thus, the depreciation amount decreases each year. The sum of the fractions used shall be equal to 1 (one) at the end of depreciation period, which means that the entire value of the depreciable asset is allocated to the depreciation amounts during its economic life. Annual Depreciation Amount = Book Value at Period Start x (Regular Depreciation Rate x 2).

**Units of Production Method:** In this method, depreciation is determined according to the expected use or production amount.

Depreciation Rate = (Cost of Fixed Asset – Residual Value) / Estimated Total Production (during its entire useful life)

Annual Depreciation Amount = Depreciation Rate x Annual Production Amount.

Annual Depreciation Amount = Depreciation Ratio x Annual Production Amount.

The assets represent the production item of assets, and the historical cost represents the constant measurement of them also, the principle of historical cost provides objective information that is verifiable, and not includes the bias and personal opinions. However, in recently years the historical cost is not relevance because the fluctuations of level prices of countries. This problem is not new but also still big issue and face the stakeholders and accountants and managers of companies. In this research collect some ideas and opinions from different scientists and experts like (Steuerle, 1979) that the issue of adjusting depreciation for inflation should be treated as part of broader issue of how to measure all income from capital. The researcher agrees on this opinion and so, this research looking for the best depreciation method to reduce the sensitive of inflation. Different Measures for Different Purposes is appropriate like what (Strouhal, 2015) mentioned for financial accounting Cost measures may provide useful margins on turnover for predicting operating cash flows in a going concern business, whereas fair value may be a more direct and reliable means of valuing a portfolio of marketable investments.

The managers use different approach to determine the price of old assets that the company desired to replace it or disposal it. (Jackson et al., 2010) refers that the company sold their old assets according these bases a (i) "best offer" basis, (ii) trading-in one of the company's machines in connection with the acquisition of a new machine, (iii) selling one of the company's machines in an auction, or (iv) selling one of the company's machines on a consignment basis that means the old book value of assets which the company need to sell is effected of the decisions of management. And this will be injustices if the assets measured by the historical cost. Through the researcher's paper, it concluded that assets consumed in an accelerated depreciation manner are sold at lower prices than those depreciated in a premium manner. This is proof that managers are influenced by those data issued from the accounting system, although cost distribution is considered discretionary. This under inflation conditions will work to make improper decisions (Jackson et al., 2010).

### **The Issue Related to the Depreciable Cost of Assets**

Why financial statements are potentially misleading during periods of changing prices:

This question was raised (Gerald A. Feltham and James A. Ohlson, 2018) and critique that:

- Historical cost under the inflationary environment is not justified and guide misleading the information.
- Comparing the budget balance with the current performance also will be misleading.
- The income will increase under the inflation and this caused:
  - Increasing for taxation
  - The staff and employee demand more salaries and wages.
  - And the shareholders will demand more distributions of profit.

### **Part two: Inflationary environment**

In last 30 years, some issues were appeared about how to calculate the cost of asset under the inflation. Some studies highlight this issue and critique the historical cost approach. In the event that prices increase as a result of inflation, according to (Hakki, 1992) refer that the Accumulated depreciation will not be at the end of the asset's life enough for the purpose of purchasing new assets. Also, if the asset is finish, the consumables will not be enough. This leads to overstatement of profits. Moreover, when the assets are sold, The loss (profit) on sale may be lower (greater) than whether prices are stable, as the resale price will be fixed closely linked to new asset prices. Since the loss (profit) however, this does not entirely exclude the possibility of a real loss (gain) due to the resale of assets. However, even if one admits the inappropriateness of historical cost it is very difficult to choose her replacement. Despite of the critique the historical cost is the suitable approach because all new approach has some shortness and they are depended on estimates and personal judgment. This research explore that the best suitable way to evaluate the assets according to their historical costs and then. According to the standards change the cost of assets to the justified historical costs. So, this section discusses the inflation and types of inflation and the tow approach to justify the exchange in the historical cost according to the accounting inflation.

### **Inflation definition and its types:**

Because historical cost is not become give relevant and timeline information this point leads to misleading the financial statement so, the ISA issued 29 standards to solve this dilemma. IAS 29 standards did not define the hyperinflationary environment nevertheless refer to some characteristics and so it will be estimate and opinion to applied like this standards. According to (IAS, 2015) hyperinflation is a situation when the prices in an economy increase rapidly and uncontrollably. Normal inflation is measured by monthly price increases, while hyperinflation is measured by exponential daily increases that can reach up to 10% per day. When the inflation reaches 50% for a month, it is called hyperinflation.

And there are two approach to change the historical cost that:

#### **1- general level price adjustment**

The adjustment of general level prices was called historical cost currency or general purchasing power equivalent, and this approach depends on make changes in the non-monetary items only. This approach uses the price index to calculate and change the historical cost and the purpose of these treatments to measure the decrease in capital companies. Also, attempt to remain the capital constant under the inflationary environment (Choi, Ferderick D. S, 2011). And the clarification of to prepare the supplementary for the traditional statements to appear the effects of general level prices through considering these steps (Shairazi, 1990):

- The modifying should be comprehensive for all elements of primary financial statements.
- The price index for the general level price for the consumer goods and services on the level of Gross National Product.
- The current and previous financial statements should translate according to the money purchasing power according to the date of preparing the financial statements not for basic years.

#### **2- Current cost adjustment** the current cost adjustment approach differ from the historical cost through two aspects:

First: The asset was evaluated by the current cost instead of historical cost.

Second: income represents the value of sources that the company able to distribute it during the period without effect on the production power or capital of companies (Choi, Ferderick D. S, 2011).

The critique of the general price adjustments:

- 1- The companies were affected by the change in general level prices. And the historical cost approach
- 2- The profit comes from increasing in the purchasing power that leads to the misleading the profits and revenue of companies.
- 3- Sometimes companies represent good soundness however the companies have a bankruptcy.
- 4- When the companies compare between the previous years.

The critique of the current cost adjustments

- 1- This approach destroys the principle of historical cost ultimate because did not depend on the original cost of acquisition assets.
- 2- This approach relies on estimated costs and it's difficult to apply it in practice.
- 3- The comparison with other financial statements will be difficult.
- 4- It failed to determine the losses and profits of possessing money like as credibility.

### **The Results**

According to the discussion above, this paper found that there are two cases when the inflation increases:

One is simple inflation: In this case the manager should select the suitable depreciated method which increase the value of depreciation expenses in the early years of acquiring the assets that means use the accelerate depreciation method in assets, and the LIFO instead of FIFO in inventories.

Second case, when the environment has an economic hyper-inflationary: It's better to use the approach of adjustment of historical cost. And select the best practice according to the environment. Nevertheless the hyperinflationary economic that should determine by the regulator of countries.

The company's focus on approach of adjustment to prepare financial statement more reliable and relevance information.

It is difficult to determine whether the inflation is simple or hyper-inflationary.

The approach of adjustment still not enough and they critique them because there are some shortness.

### **In Conclusions:**

This paper discussed the suitable ways of depreciation from the previous studies and found that there are two approaches to depreciate assets and calculate the depreciable cost of assets in an inflation environment in the last 30 years. Before the 30 years, several companies prefer to select accelerate depreciation versus the straight line method of depreciation to decrease the effects of the inflation. The standards of ISA 8,16,21 determined the method of depreciation. Despite of the managers can choose the best way according to the environment of the company. The previous studies referred that the accelerate method of depreciation is more suitable than others in simple inflation.

However, now in the accelerated increasing inflation, the companies and regulation units refer to adjusting for all elements of the balance sheet and income statement to reflect the changes of the general level of prices. And according to the standards of ISA referred to that the companies can justify and evaluate the value of assets to be more comparable and relevant at least every three years. And in the 21 ISA standards clarify the treatment of elements in the inflationary environments nevertheless there is still critique for the alternative of historical cost. The historical cost approach is good because it represents the bias evidence and real value. However, the alternative approach for historical cost is based on bias because it depended on personal estimated and will not be the same in all companies. This statement needs more research to provide more relevant and reliable information on the balance sheet and income statement.

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