

Influence Of Property, Plant and Equipment Measurement After Recognition Accounting Policy on Financial Results of The Entity

By

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Abstract

The study examines the impact of property, plant and equipment measurement after recognition accounting policy on financial results of the company on the example of FESCO company. The method used in the paper includes the comparison of two models: the cost model and the revaluation model. As the base for the used model recalculation the information provided by the company was applied. Three financial ratios were calculated and compared by the authors: return on assets, assets turnover ratio and equity to assets ratio. Results demonstrated the cost model significantly decreases the value of non-current assets and as a result increases the company's effectiveness. The return on assets and assets turnover ratio increased. The revaluation model may be used by the company to increase its solvency as the equity to assets ratio increases in this case. The cost model also increases depreciation to be paid and, thus, decreases the profit before tax. The entity may use this as a tax shield and, consequently, pay less taxes. Nevertheless, profit for the year decreases while using the cost model.

Keywords: Accounting policy, tangible assets, property, plant and equipment, financial results, depreciation, measurement after recognition

Introduction

Accounting policy is one of the sufficient instruments allowing to affect the financial results of the company. According to International Accounting Standard 8 (IAS 8), accounting policies are the specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements¹. Those principles may pursue different goals. For example, accountants may follow the goal to decrease the tax paid, managers and shareholders would like to have correct and fair image of the company's financial position. Thus, the company may adjust its financial indicators value using different methods of processing subsequent measurements, useful live, depreciation and others.

Organizations adopt their accounting policies by choosing one of the multiple methods of the accounting suggested by International Financial Reporting Standards (IFRS). The base for the choosing the right accounting policy is the professional assessment of workers of an accountant department based on the specificity of the organization and its operating process.

This article subject is the accounting policy regarding the property, plant and equipment.

Property, plant and equipment (PPE) are tangible items:

- a) are held for use in the production or supply of goods or services, for rental to third parties, or for administrative purposes; and
- b) are expected to be used during more than one period².

This category includes items as land, buildings, machinery and equipment, furniture. The cost of real estate, plant and equipment must meet two characteristics in order to be recognized as an asset: the entity will receive future economic benefits associated with the asset; and it is possible to measure the cost of the item reliably. Moreover, as property, plant and equipment are assets with relatively long useful lives, they should therefore be classified as non-current assets.

¹ International Financial Reporting Standards. International Accounting Standard, No. 8

² International Financial Reporting Standards. International Accounting Standard, No. 16

According to IAS 16, there is a variability of models and methods used as accounting policies regarding measurement after recognition and depreciation. This article is intended to examine the measurement's impact after recognition on a company's financial indicators.

Literature Review

The influence of accounting policy of the company is the subject of many studies. J. Birt et al (2017), S. Alayemi (2015) and even European Commission report written by G. Vaughan-Morris (2014) research accounting policy of the company as the powerful tool which play significant role in the representation of its financial results. Some authors, as S. Diakova (2020), divide methods of accounting into two categories: with and without impact on the financial result of the company. Accounting methods of intangibles, recognition and measurement of materials influence only the ways of processing the information. Profit, expenses, depreciable property, provisions, production costs accounting methods and models influence the financial result, the income. In literature, some empirical studies on the influence of the accounting policy of property, plant and equipment have focused on panel of variables, such as useful life, measurement after recognition methods, depreciation methods. Speaking about measurement after recognition, it's crucial to mention that IAS 16 consents an entity to choose either the cost model or the revaluation model as its accounting policy as the measurement after recognition. N. Sanahuja and A. Manuel (2014) examine the effect of the method of measurement after recognition on the company's financial results. They found that the use of revaluation method decreases the leverage ratio and decreases the return on assets ratio by increasing the value of total assets but does not influence the income. Their results comply with the results of F. Missonier-Piera (2007), who finds that leverage is positively associated with the revaluation choice.

L. Nichols and K. Buerger (2002) disclose that the cost model statements report total income at an amount which is higher than the income amount reported on the statements with the revalued fixed assets. Income on the revalued statements is lower because the increased depreciation based on the fair value of fixed assets is greater than the positive revaluation amount for the year reported.

D. Aboody et al (1999) have analyzed the UK firms used upward revaluation of fixed assets and their operating performance. Their finding is that current year upward revaluations are significantly positively associated with returns.

The results of the studies differ significantly due to the variation of the data and methods used in the analyses. Summarizing the results from numerous studies, the revaluation model is a more frequent choice of those companies that want to make their financial statements look better. However, it is more probable that the same report prepared different methods would have higher income value when using the cost model.

Materials And Methods

The primary sources of information for this study were official IFRS texts and accounting textbooks and articles, financial reports of the company used as a model. The principal used research methods were synthesis, analysis, induction, and deduction. The method of analysis used in this research is descriptive analysis.

The methodology used in the empirical analysis comprises the real example of the statement of financial position with the significant portion of non-current tangible assets and accompanied by the statement of profit or loss.

The statement of financial position and statement of profit or loss of FESCO company is used as the base model. The statement of financial position is presented in Table 1 and the statement of profit or loss in Table 2.

Selected variables of the model are the next:

Measurement after recognition models:

- Cost model – Once recognized as an asset, a tangible fixed asset must be stated at cost less accumulated depreciation and accumulated impairment losses (Model 1, fleet is impacted)
- Revaluation model – After being recognized as an asset, an item of property, plant and equipment whose fair value can be reliably determined is remeasured at its fair value at the date of revaluation, less any subsequent accumulated depreciation charges and any subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that determined using fair value at the end of the reporting period (Base model, fleet is impacted)

Financial statements analysis instruments are used in order to quantify the impact of accounting policy elements on the financial results of the company. In that sense the return on assets (ROA) is selected as a top ratio. Also, the total assets turnover ratio, current ratio and equity to assets ratio were selected (Table 3). The profit for the year and the total comprehensive income was recalculated also.

Discussion

Far-Eastern Shipping Company PLC. (FESCO) is a Russian joint stock company. The main activity of FESCO and its subsidiaries (the Group) has traditionally been shipping. In recent years, FESCO has transformed into a multimodal logistics group, providing a full range of logistics solutions through a combination of maritime, rail, trucking and port services.

Table 1. *Statement of financial position of FESCO company, December 31, 2020, mln RUB*

Item	Base model
Non-Current Assets	37951
Fleet	5839
Rolling stock and other tangible fixed assets	24702
Current Assets	16754
Total Assets	54705
Shareholders' Equity	4863
Retained earnings	7308
Revaluation surplus	(30738)
Non-Current Liabilities	28457
Current Liabilities	21385
Total Equity and Liabilities	54705

Source: *FESCO Consolidated Financial Statements for the year ended 31 December 2020.*

// **URL:** <https://www.fesco.ru/ru/investor/reports-and-presentations/msfo/>

FESCO Consolidated Financial Statements for the year ended 31 December 2021. // **URL:**

<https://www.fesco.ru/ru/investor/reports-and-presentations/msfo/>

Table 2. *Statement of profit or loss and other comprehensive income of FESCO company, December 31, 2020, mln RUB*

Item	Base model
Revenue	62168
Operating expenses	(42143)
Gross profit	20025
Depreciation and amortization	(2959)
Administrative expenses	(7782)
Impairment	(635)
Other expenses	(492)
Profit from operating activity	8157
Non-operating expenses	1704
Profit before income tax	9861
Income tax expense	(1515)
Profit for the year	8346
Other comprehensive income	(8470)
Effect of foreign currency translation	(8457)
Revaluation of fleet	(20)
Deferred tax on fleet revaluation	7
Total comprehensive income for the year	(124)

Source: *FESCO Consolidated Financial Statements for the year ended 31 December 2020.*

// **URL:** <https://www.fesco.ru/ru/investor/reports-and-presentations/msfo/>

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Financial ratios used for analysis were chosen as their value depends on the value of assets

And the final financial result meaning the profit value. All three ratios are a part of different analysis components. While Return on Assets is the rate of return analysis examining the optimal use of resources of the company, Assets turnover ratio belongs to the efficiency analysis that measures how well management operates the company. Equity to assets ratio is a part of leverage analysis and it is used to explore how the company's assets are financed, using equity or debt.

Table 3. *Ratios for evaluating of financial results*

Financial ratio	Formula
Return on assets (ROA)	Net income (Profit for the year) / Total assets
Assets turnover ratio	Revenue / Total assets
Equity to assets ratio	Total equity / Total assets

FESCO company uses the revaluation model as the accounting policy for fleet measurement after recognition and for rolling stock and other tangible fixed assets uses cost model.

According to IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*, the change in accounting policy is applied retrospectively. Retrospective application

includes adjusting the opening balance of each affected equity component for the earliest prior period presented, and other comparative amounts presented for each prior period presented as if the new accounting policy had always been applied.¹

As it is not possible to recalculate the cost without access to deeper information about property, plant and equipment of FESCO company, the main assumption of the model is that the carrying amount of the fleet if the cost model would be used – 4207 mln RUB (31 December 2021 – 6529 mln RUB) as FESCO discloses in the notes to the consolidated financial statements. Also, the models assume that the accumulated depreciation decreases the retained earnings of the year 2020 by 5712 mln RUB, depreciation increases by 3440 mln RUB as stated in the note 5 of Consolidated Financial Statements, all revaluation related income and surplus become equal to zero, profit of the year was decreased proportionally to increase in depreciation paid, income tax expense decreased due to lower profit before tax. As the rolling stock and other tangible fixed assets are disclosed using the cost model, they are not recalculated for Model 1 or Base model.

Results of new models' applications are shown in Tables 4-7.

Table 4. *Comparison of statements of financial position of FESCO company prepared using different accounting policies, December 31, 2020, mln RUB*

Item	Base model (Revaluation model & Diminishing balance method)	Model 1 (Cost model & Diminishing balance method)
Non-Current Assets	78818	58443
Fleet	26904	6529
Rolling stock and other tangible fixed assets	38620	38620
Current Assets	40800	40800
Total Assets	119618	99243
Shareholders' Equity	54239	33864
Retained earnings	44624	35687
Revaluation surplus	11438	0
Non-Current Liabilities	36405	36405
Current Liabilities	28974	28974
Total Equity and Liabilities	119619	99243

Source: *FESCO Consolidated Financial Statements for the year ended 31 December 2020.*

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Table 4 depicts the comparison of two models' statements of financial positions. While the base model's statement is the same as the one presented by the company, there are some changes in the Model 1's. The value of the fleet decreased significantly because of the change in accounting policy. Consequently, the value of non-current and total assets has changed also. Another part of the statement that changed is the shareholders' equity. It decreased because of the absence of a revaluation surplus and the decrease in retained earnings. These changes are described more specifically in the statement of changes in equity.

¹ International Financial Reporting Standards. International Accounting Standard, No. 8

Table 5. Comparison of statements of profit or loss and other comprehensive income of FESCO company prepared using different accounting policies, December 31, 2020, mln RUB

Item	Base model	Model 1
Revenue	113709	113709
Operating expenses	(54663)	(54663)
Gross profit	59046	59046
Depreciation and amortization	(6909)	(10349)
Administrative expenses	(12470)	(12470)
Impairment	4221	4221
Other expenses	(468)	(468)
Profit from operating activity	43420	39980
Non-operating expenses	(3109)	(3109)
Profit before income tax	40311	36871
Income tax expense	(2461)	(2236)
Profit for the year	37850	34635
Other comprehensive income	11526	173
Effect of foreign currency translation	271	173
Revaluation of fleet	12093	0
Deferred tax on fleet revaluation	(838)	0
Total comprehensive income for the year	49376	34808

Source: FESCO Consolidated Financial Statements for the year ended 31 December 2020.

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Table 5 reflects the comparison of statements of profit or loss and other comprehensive income. As the revaluation model suggests no depreciation payments, the amount of depreciation and amortization in Model 1 increased significantly. As the result, the profit before tax also decreased. The tax paid sum depends on the value of profit before tax and with the decrease of latter, it also decreased. Another part changed is the statement of other comprehensive income. With the absence of revaluation procedures, there is no comprehensive income related to that.

Table 6. Statement of changes in equity, base model, December 31, 2020, mln RUB

	Share capital	Share premium	Retained earnings	Revaluation surplus	Translation surplus	Total	Non-controlling interests	Total equity
Balance on January 1, 2021	2951	23697	7308	95	(30833)	3218	1645	4863
Profit for the year			37306			37306	544	37850
Effect of foreign currency translation				98	173	271		271
Revaluation of fleet				12093		12093		12093

Depreciation on fleet revaluation reserve			10	(10)				
Deferred tax on fleet revaluation					(838)	(838)		(838)
Balance on December 31, 2021	2951	23697	44624	11438	(30660)	52050	2189	54239

Source: *FESCO Consolidated Financial Statements for the year ended 31 December 2020.*

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Table 6 conveys the real statement of changes in equity presented by the company. The revaluation repercussions may be found there, such as revaluation surplus and deferred tax on fleet revaluation.

Table 7. *Statement of changes in equity, model 1, December 31, 2020, in mln RUB*

	Share capital	Share premium	Retained earnings	Revaluation surplus	Translation surplus	Total	Non-controlling interests	Total equity
Balance on January 1, 2021	2951	23697	1596		(30833)	(2589)	1645	(944)
Profit for the year			34091			34091	544	34635
Effect of foreign currency translation					173	173		173
Revaluation of fleet								
Depreciation on fleet revaluation reserve								
Deferred tax on fleet revaluation								
Balance on December 31, 2021	2951	23697	35687		(30660)	31675	2189	33864

Source: *FESCO Consolidated Financial Statements for the year ended 31 December 2020.*

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Table 7 represents the changes of statement of changes in equity because of a transfer to the new accounting policy. As a result, the value of retained earnings on January 1, 2021, decreased because of previous increased depreciation payments. Is it one of the Model 1 assumptions. Profit for the year changes may be seen in Table 5. Without revaluation, there cannot be revaluation surplus or the effect of foreign currency translation on it. As the result, the value of the effect of foreign currency translation changed in the statement of other comprehensive income. The value of equity and retained earnings' value on December 31, 2021, became lower as displayed in the statement of financial position.

Result

Table 8 illustrates ratios calculated for both models. Return on assets demonstrates the effectiveness of assets usage for profit generation. The higher the value of this ratio, the more effective company's operation is. Result of Model 1 is higher meaning the effectiveness increased. It is so because the amount of assets decreased more than the profit for the year. Assets turnover ratio can be used as a measure of the efficiency with which a company uses its assets. The higher the ratio, the more efficiently the company receives revenue from its assets. As it is also related to the amount of assets, the decrease in their value gives more efficient revenue generating. Equity to assets ratio characterizes the financial leverage of the company, its solvency. A low value may lower the borrowing capacity of the company. Here, the Model 1 result is lower then the Base model meaning the company became more leveraged through debt. The risk of the company insolvency increased. Company's profitability and liquidity do not change as the decrease in the value of non-current assets to not influence them.

Profit for the year has decreased in Model 1 comparing to Base model due to increased amount of depreciation. Value of other comprehensive income has also decreased due to lack of sundry income caused by revaluation surplus.

Table 8. *Financial ratios calculated based on two models*

Ratio	Base model	Model 1
Return on assets	0,316	0,349
Assets turnover ratio	0,951	1,146
Equity to assets ratio	0,453	0,341

Conclusion

Beyond a shadow of a doubt, the accounting policy is an substantial tool of financial governance. This paper highlights the impact of the property, plant and equipment measurement after recognition accounting policy to the financial results of the company. The cost model and revaluation model were compared on the example of FESCO company. Ultimately, the revaluation model allows the company to increase the amount of the non-current assets and as a result improve solvency as lower part of the assets become financed through debt. Nevertheless, the cost model allows to increase the efficiency of the company. Thus, the return on assets and assets turnover ratio increased. In addition, the aftermaths of implementation cost model are concerned with the depreciation upturn to be paid, it decreases the profit before tax. There may be a positive impact on the company as its tax to pay decreases. Although, the profit for the year also decreases in close proximity.

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