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IMPACT OF IAS 19 ACTUARIAL CALCULATIONS' ON FINANCIAL PERFORMANCE: EVIDENCE FROM PUBLIC ENTERPRISES IN FEDERATION OF BOSNIA AND HERZEGOVINA

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Abstract

International Accounting Standard 19 - Employee Benefits outlines the accounting requirements for employee benefits, including short-term benefits, post-employment benefits, other long-term benefits and termination benefits. The standard establishes the principle that the cost of providing employee benefits should be recognized in the period in which the benefit is earned by the employee, rather than when it is paid or payable, and outlines how each category of employee benefits is measured. Aim of the paper is to determine the degree of IAS 19 implementation in Federation of Bosnia and Herzegovina, and its impact on financial performance of public enterprises. Since no significant negative impact of the implementation of IAS 19 on the financial performance has been proven, it could be recommended that the observed entities consider all its advantages and thus realize the potential benefits for both, the company and the employees.

Keywords: IAS 19; employee benefits; financial performance; public enterprises

1. INTRODUCTION

International Accounting Standard 19 - Employee Benefits (hereinafter IAS 19) focuses on the accounting treatment of all types of employee benefits in a business entity both during their employment, but also after termination of employment. Accounting for employee benefits with the employer is reduced to the simultaneous recognition of expenses and liabilities for certain benefits that result from the services provided, the payment of which will follow in a subsequent period. Remuneration related to employees within IAS 19 is based on non-independent work, i.e. on the basis of working for other persons. Under IAS 19, employee benefits include: (i) short-term employee benefits, (ii) post-employment benefits, (iii) other long-term employee benefits, and (iv) termination benefits.

Short-term employee benefits are all employee benefits (other than termination benefits) that are fully covered within twelve months after the date on which the employee provided the last service to his or her employer. Short-term employee benefits include: wages, salaries and social security contributions, holiday and sick pay, income-based benefits and non-cash benefits of current employees. Accounting for short-term employee benefits is very simple because no actuarial assumptions are required to measure liabilities or price, and there is no possibility of any actuarial gain or loss. It means that short-term employee benefit obligations are measured on an undiscounted basis.

Post-employment benefits include: pensions, life insurance, and health insurance after termination of employment. In order for a business entity to provide post-employment benefits to its employees, it establishes arrangements in the form of post-employment benefit plans. These plans are divided into defined contribution plans and defined benefit plans. According to the defined contribution plans, the obligation of the business entity (employer) is limited to the amount of contributions paid into the fund, which will ultimately affect the amount of income that the employee will receive. Based on that, actuarial risk and investment risk are borne by the employee. Business entities-employers periodically (mostly monthly) pay certain contributions to a fund managed by a third party. When the time comes for the employee to retire, the amount of the pension is determined according to the cumulative value of the fund. With defined benefit plans, employees are guaranteed the payment of post-employment benefits in relation to the average salary. According to defined benefit plans, employee benefit obligations are measured on a discounted basis, given the fact that settlement may occur several years after the provision of employee services.

Other long-term employee benefits include: long-term leave benefits, jubilee awards or other long-term benefits, long-term incapacity benefits, profit-sharing and bonuses due within twelve months or more after the end of the period in which an employee worked, deferred benefits that fall due within twelve months or more upon the expiration of the period in which they are earned. The accounting treatment of these other long-term employee benefits is much simpler

than the accounting treatment of post-employment benefits. In accordance with the nature of these benefits, it is necessary to present them on a discounted basis, i.e. as the present value of future income.

In IAS 19, termination benefits are treated separately from other employee benefits because the event giving rise to the obligation is a termination and not employee work. In that sense, the legal entity, if it is provable that it has assumed the obligation, recognizes on the one hand the expense on the basis of severance pay, and on the other hand the obligation for severance pay, i.e. funds if the payment follows immediately.

Adequate application of IAS 19 would enable users of financial statements to compare the costs and liabilities related to the income of employed economic entities in Federation of Bosnia and Herzegovina (hereinafter FB&H) with economic entities of other countries, and at the same time the rights of workers on all grounds would be guaranteed. However, due to the specific legal regulation of FB&H and the laws and bylaws related to the labour market, a significant part of the provisions of this standard is not applicable. This primarily refers to employee benefits after termination of employment, but also partly to other long-term employee benefits. Also, the first mentioned category, short-term employee benefits, in the legal system of FB&H does not require actuarial calculation. The situation is further complicated by the high unemployment rate followed by manipulations on the labour market, so that short-term employee benefits are insured at the minimum amount prescribed by the Labour Law, the Law on Contributions, the Law on Income Tax, and the Collective Agreement. Currently, most public companies in FB&H deal with the calculation and recording of other long-term employee benefits and severance pay in accordance with IAS 19.

When it comes to financial statements regulation, public companies in FB&H prepare financial statements in accordance with the Law on Accounting and Auditing (Official Gazette 83/09), International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) and their amendments and interpretations. In the meantime, a new Law on Accounting and Auditing has been issued (Official Gazette 15/21), but it will refer to the financial statements starting from financial year 2021. Standard set of financial statements include: Balance sheet - Statement of financial position at the end of the period; Income statement - Report on the total result for the period; Statement of cash flows; Statement of changes in equity; and Notes to the financial statements.

In accordance with the above, the purpose of this paper is to examine the extent to which public companies in the FB&H apply the provisions of IAS 19 related to other long-term employee benefits and severance pay, how they approach the calculation of costs and liabilities related to them, and how actuarial estimates are maintained on their performance presented in the financial statements.

The research question is defined accordingly: Does the application of IAS 19, based on actuarial calculations, in the area of other long-term employee benefits and termination benefits, have an impact on the financial performance of public enterprises in FB&H presented in the financial statements?

In order to answer the research question, a research hypothesis was formulated: IAS 19 application, based on actuarial calculations, in the area of other long-term employee benefits and termination benefits has no direct impact on the financial performance shown in financial statements. Accordingly, (1) IAS 19 application is identified by performing in-depth analysis of financial statements and related secondary data, and (2) the financial performance is measured by the operating profit or loss shown in income statements of observed public enterprises and ROA calculated as the ratio of operating profit/loss to total assets.

2. LITERATURE REVIEW

For many years, the application of IAS 19 has been studied by researchers as a very controversial topic. There is a plethora of research dealing with the effects of IAS 19 around the world, and a particularly important milestone in this regard occurred in 2010 when the International Accounting Standards Board (hereinafter IASB) published an exposure draft with proposed changes to IAS 19 (Severinson 2010; Demaria et al. 2012; Hartwell, 2012; Sandu 2012; Glaum et al. 2018; Klein and Fülbier 2019).

According to Severinson (2010) the proposed changes presented in the exposure draft were an interim step in a long-term process towards an ultimately new method of accounting for companies' pension promises. Severinson (2010) emphasizes two important issues that pension policymakers should consider. First, changes in accounting standards are likely to shape how companies design, finance and think about the pension promises they offer to their employees. Second, these accounting changes may have implications for the valuation rules that regulators and supervisors require pension funds to use. Klein and Fülbier (2019) provide evidence on the little researched internal sphere of private International Accounting Standards Board standard setting, more specifically, on the dynamic of board discussions and the respective impact of exogenous input such as comment letters, the array of arguments evoked in IASB debates, individual board member contribution and board-staff relations.

Mihaela - Andreea and Marioara (2014) in their research identify two perspectives of application employee benefits nationwide, in the sphere of accounting research at the intersection of finance research and field research on human resource management. Lin et al. (2010) conducted study form the aspect of human resource management. They have systematically described how benefit schemes were developed from the planned economy period in China and explained how the newly added benefits can better motivate employees to commit to their work, thus supplementing a thin literature. Noja and Caran (2015)

conducted the study to identify and assess the economic impact of postemployment benefits such as pensions in the case of Romania and Serbia. The results highlight a significant positive impact of pension systems on overall economic activity, increasing the total and per capita GDP, as well as improving labour market stability. Thus, employees consider this type of benefit as providing a security for them on retirement, increasing productivity and reducing unemployment. In the following, we will focus on the results of research on the application of IAS 19 from the aspect of finance and accounting.

Lundesgaard (2014) clarifies the impact of the application of IAS 19 on financial statements from the point of view of Norwegian legislation and after a closer analysis of the problem of financial reporting, concludes that the reporting of effects of benefit plans should be limited to notes. Lode and Napier (2014) examined factors influencing the choice of accounting policy among managers of UK listed companies, who are obligated to apply International Accounting Standards including IAS 19. Research result indicated that the characteristics of size of firm and interest coverage are significant determinants influencing the choice of accounting policy. Liapis and Thalassinos (2013) in their study illustrate a comparative analysis for the accounting reporting of "employee benefits" between the International Financial Reporting Standards and other accounting reporting standards in Greece. In order to adapt IFRS Greece has transposed almost all defined "employee benefit plans" to defined contribution plans while actuarial estimations were converted into economic estimations to determine their contribution to the new defined contribution plans, which led to the recognition by the entities clearly larger provisions - liabilities for the "employee benefits". Ljubicic (2010) examines the expected returns on pension assets for the first time under IAS 19 in the context of earnings management in Germany. The results suggest that earning manipulation with expected pension returns occurs solely in cases where firms use the so-called "equity approach". Managers seem to manipulate the assumed return in cases when they foresee a failure to meet earnings expectations. The degree of manipulation is directly linked to the shortfall below critical thresholds, to earnings' sensitivity to the expected return on plan assets and to the firm's leverage. Anantharaman and Chuk (2018) predict and find, for a sample of Canadian firms applying IAS 19, that risk-taking in pension investment decreases after IAS 19 implementation. Removing sponsors' ability to recognize the higher expected returns to risk-taking in net income, therefore, appears to reduce their propensity to engage in risk-taking, suggesting, in turn, that the ERR-based accounting regime in place prior to IAS 19 encouraged more risk-taking in pension investments than could be explained by purely economic determinants of risk-taking. Wen-hsin Hsu et al. (2013) examine the factors that can induce managers to increase (decrease) fair value of pension assets (liabilities) through pension assumptions in Taiwan. This study finds that companies are inclined to increase (decrease) the value of pension assets (liabilities) by rising (lowering) the assumed expected rate of asset returns (expected salary growth).

3. METHODOLOGY

As mentioned earlier, IAS 19 includes four categories of employee benefits, but in this paper authors will focus only on two that are applicable in the market of FB&H, and which require actuarial calculations: other long-term employee benefits and termination benefits. Since both categories relate to cash benefits that will be paid in the future, when creating financial statements, it is necessary to assess their present value as good as possible, and to use adequately calculated amount in the financial statements.

For better and more comprehensive projection of future liabilities and determination of their present value, and while respecting applicable laws and regulations, it is important to emphasize that actuarial assumptions may be demographic and financial in nature. Given the goal and hypothesis of this research, only mortality (as the dominant assumption of demographic character) and the discount rate (as the dominant assumption of financial character) will be taken into account. It will be considered relevant for determining other long-term benefits and termination benefits. Provisions for termination benefits are formed based on the age of the employee, length of service and average salary using the appropriate discount rate (the discount rate used in mortality tables is of the utmost importance as well), while the provision for other long-term benefits is determined based on the expected future value of compensation, time period and again using the adequate discount rate.

Actuarial assumptions must generally be impartial and mutually consistent. This implies that when estimating quantities offered value must not be unreasonably high but at the same time it should be sufficiently conservative. The offered assumptions should take into account the economic reality, i.e. the connections between individual quantities and should be based on market expectations. If there are no legally and/or business-specific limits, as a financial product and/or other relevant business policy element, then there is no reference value at the level of the national economy (as is the case in FB&H). In that case the process of actuarial assumptions setting is a highly challenging job.

In actuarial demographic assumptions, special attention is paid to future mortality, which is estimated on the basis of mortality tables, which are adjusted in accordance with the estimated improvement in life expectancy. When it comes to assumptions of a financial nature, special attention should be paid to the discount rate that is applied for discounting future liabilities, income after termination of employment. In the case of FB&H, and restrictions on the application of IAS 19, this discount rate may be appropriately used to discount other long-term benefits and termination benefits. Since in the current reality in FB&H, neither corporate bonds nor government bonds whose market yield is the basis for calculating the discount rate have sufficiently taken root in operating transactions, as well as there is not a long enough period of time indicating financial market experience, the discount rate is based on market data relating to

the least risky investments. Investments in government bonds and high-quality corporate bonds are considered the least risky investments.

Therefore, in order for companies to be able to make the necessary financial statements' entries related to the application of IAS 19, it is necessary to have a calculation by a certified actuary based on previously explained assumptions. In order to examine whether public companies in the FB&H make the necessary provisions for other long-term employee benefits and termination benefits, based on actuarial assumptions, we performed in-depth analysis of their latest published financial statements for 2018 and 2019, as well as available external financial audit reports for 2018 and 2019. Out of a total of 38 public enterprises in the FB&H, 3 in the last few years have gone through bankruptcy and restructuring proceedings, while 26 of them had available financial reports on their website, on the website of the Sarajevo Stock Exchange (http://www.sase.ba/v1), or within the database of the Financial and Information Agency of the FB&H, while remaining 9 do not have publicly available information. Information on whether the observed company applies IAS 19 should be explained in the notes to the financial statements or in the external audit reports, and if this is not the case then there should be an amount on the account of provision costs and/or long-term provisions for costs and risks. Given the scope of this paper, the quality and the appropriateness of actuarial calculation that is related to IAS 19 have not been verified.

After we have checked the above, we inspected the operating revenues, operating expenses, operating results and calculated ROA of all observed companies for 2018 and 2019, in order to examine whether the fact that a public enterprise applies IAS 19 affects its operating result and profitability measured by ROA. This should help us to draw conclusions regarding the insufficient application of IAS 19 in FB&H. For this purpose, we performed a regression analysis with the dependent variable ROA and the independent variable application of IAS 19. Since the data are divided in two independent groups we have also used the Mann-Whitney test, also called the Wilcoxon rank sum test, as appropriate nonparametric test that compares two unpaired groups.

4. RESULTS

In the last observed period, i.e. during 2019, which should be the last accounting period on which the assumption of the discount rate is based, there were no initial public offerings of corporate bonds in the FB&H. Bonds from the FB&H (issued by the Government of FB&H) most often used annual interest rates in the public offering in 2019 in the range of 0.05% (for an issue with a maturity of three years) to 0.85% (for an issue with a maturity of 10 years). There were no state-level public offerings that would ensure a better calculation of the reference interest rate.

The low level of development of the financial market in FB&H as well as the shallow financial market (in terms of number and variety of financial instruments), additionally negatively affects the determination of a respectable discount rate to be used in projecting the payments' present value in the future. The nature of these securities and the interest rate associated with their calculations can be a realistically correct basis for choosing the appropriate interest rate on risk-free investments in FB&H as accrual discount rates when calculating the present value of future liabilities with the basis in long-term employee benefits and termination benefits. Considering the average maturity of bonds' offerings in FB&H in 2019 (which is 5.8 years), the average weighted interest rate on risk-free investments is 0.045%.

After an in-depth analysis of the financial statements and related documentation for 2018 and 2019 of the observed companies, we found that 13 apply the provisions of IAS 19 based on above described actuarial calculations, while the remaining 13 do not apply the provisions of IAS 19 at all (Table 1).

Table 1

Application of IAS 19 based on Actuarial Calculations within Public Enterprises in FB&H

Application of IAS 19 based on actuarial calculations	**Public enterprises in FB&H**
Yes	13
No	13
Total	26

Source: Own research conducted on a sample public entities

The following table shows the analysed companies that apply IAS 19 on the basis of actuarial calculations together with the realized operating income and expenses, operating profit (loss) and ROA for 2018 and 2019.

Table 2

Operating revenues, operating expenses, operating profit (loss) and ROA for the years 2018 and 2019 (in 000 KM) of public enterprises in FB&H that apply IAS 19 on the basis of actuarial calculations

Company	2018				2019			
	Operating Revenues	Operating Expenses	Operating profit/loss	ROA	Operating Revenues	Operating Expenses	Operating profit/loss	ROA
A1	480,413	423,919	56,494	0.050	461,363	410,836	50,527	0.040
A2	1,046,048	974,064	71,984	0.021	1,043,056	981,305	61,751	0.018
A3	49,036	40,511	8,525	0.064	47,175	35,083	12,092	0.086
A4	2,062	1,323	739	0.085	2,369	2,282	87	0.010
A5	51,540	35,857	15,683	0.068	56,004	37,381	18,623	0.075
A6	201,496	70,308	131,188	0.066	209,686	64,576	145,110	0.066
A7	442,010	416,210	25,800	0.020	465,146	412,378	52,768	0.041
A8	203,889	205,415	-1,526	-0.004	195,343	196,991	-1,648	-0.004
A9	115,639	121,225	-5,586	-0.004	117,586	121,368	-3,782	-0.002
A10	1,263	1,256	7	0.007	887	1,020	-133	-0.172
A11	32,685	30,999	1,686	0.113	24,122	21,787	2,335	0.137
A12	24,695	25,142	-447	-0.017	25,629	26,014	-385	-0.015
A13	88,741	47,972	40,769	0.017	97,143	49,691	47,452	0.018
Total	**2,739,517**	**2,394,201**	**345,316**	**-**	**2,745,509**	**2,360,712**	**384,797**	**-**

Note: Amounts are presented in convertible marks (KM), and 1 KM is 0.51 EUROs.

Source: Own research conducted on a sample public entities

Of thirteen public companies in FB&H, which apply IAS 19, in 2018 three made a loss from operating activities in the total amount of 7,559,137 KM, while the remaining ten made a profit in the total amount of 352,875,998 KM. In 2019, we have four public companies that made a loss in the total amount of 5,948,039 KM, while the remaining nine made a profit in the total amount of 390,745,669 KM.

The following table shows the analysed companies that do not apply IAS 19 together with the realized operating income and expenses, operating profit (loss) and ROA in 2018 and 2019.

Table 3

Operating revenues, operating expenses, operating profit (loss) and ROA for the years 2018 and 2019 (in 000 KM) of public enterprises in FB&H that do not apply IAS 19 on the basis of actuarial calculations

Company	2018				2019			
	Operating Revenues	Operating Expenses	Operating profit/loss	ROA	Operating Revenues	Operating Expenses	Operating profit/loss	ROA
B1	35,680	29,955	5,725	0.096	32,417	27,919	4,498	0.070
B2	12,203	10,720	1,483	0.050	10,188	6,500	3,688	0.122
B3	129,052	137,713	-8,661	-0.041	133,491	141,309	-7,818	-0.043
B4	7,200	7,438	-238	-0.024	9,485	9,087	398	0.038
B5	3,749	3,406	343	0.013	2,612	3,488	-876	-0.033
B6	11,109	12,046	-937	-0.133	12,127	12,500	-373	-0.046
B7	108,451	98,452	9,999	0.075	131,082	124,840	6,242	0.041
B8	145,566	141,318	4,248	0.022	139,054	136,632	2,422	0.011
B9	8	18	-9	-0.011	8	24	-16	-0.019
B10	88,523	88,269	254	0.001	91,474	90,314	1,160	0.004
B11	91,703	89,654	2,049	0.022	103,538	106,457	-2,919	-0.033
B12	32,700	31,668	1,032	0.052	35,520	33,214	2,306	0.079
B13	531	901	-370	-0.016	570	735	-165	-0.007
Total	**666,475**	**651,558**	**14,918**	**-**	**701,566**	**693,019**	**8,547**	**-**

Note: Amounts are presented in convertible marks (KM), and 1 KM is 0.51 EUROs.

Source: Own research conducted on a sample public entities

Of thirteen public companies in FB&H, which do not apply IAS 19, in 2018 five made a loss from operating activities in the total amount of 10,215,380 KM, while the remaining eight made a profit in the total amount of 25,133,561 KM. In 2019, we have six public companies that made a loss in the total amount of 12,168,258 KM, while the remaining seven made a profit in the total amount of 20,715,470 KM.

The following table shows descriptive statistics of the operating revenues, operating expenses, operating profit/loss and ROA of analyzed companies for 2018 and 2019.

Table 4

Descriptive statistics on operating revenues, operating expenses, operating profit/loss and ROA of public enterprises from the sample in relation to the application of IAS 19 based on actuarial calculations for the years 2018 and 2019

Year	IAS 19	Indicators	Operating revenues	Operating expenses	Operating profit/loss	ROA
2018	No	Mean	51,267,854.23	50,120,301.85	1,147,552.38	0.0082
		N	13	13	13	13
		Std.Dev.	53,513,084.02	53,252,382.62	4,256,593.69	0.5827
	Yes	Mean	53,513,084.02	53,252,382.62	4,256,593.69	0.0376
		N	13	13	13	13
		Std.Dev.	53,513,084.02	53,252,382.62	4,256,593.69	0.0397
	Total	Mean	131,000,166.58	117,180,070.58	13,855,193.92	0.0229
		N	26	26	26	26
		Std.Dev.	223,865,731.11	207,859,728.43	30,666,216.44	0.5109
2019	No	Mean	53,966,993.92	53,309,503.00	657,493.23	0.0141
		N	13	13	13	13
		Std.Dev.	56,439,531.27	56,967,407.55	3,540,997.29	0.0528
	Yes	Mean	211,193,235.38	181,647,193.08	29,599,817.69	0.0229
		N	13	13	13	13
		Std.Dev.	295,712,194.35	279,415,189.43	42,411,678.74	0.0725
	Total	Mean	132,580,114.65	117,478,348.04	15,128,655.46	0.0185
		N	26	26	26	26
		Std.Dev.	223,450,581.78	208,122,681.20	32,972,866.30	0.6230

Source: Own research conducted on a sample public entities

Based on the results presented in the Table 4 we can conclude that IAS 19 is applied in the public enterprises that generate higher operating revenues and operating expenses, which therefore implies a significantly higher average operating profit in the observed period (26,562,835.46 KM in 2018 and 29,599,817.69 KM in 2019) compared to public enterprises that do not apply IAS 19 (1,147,552.39 KM in 2018 and 657,493.23 KM in 2019). The same applies to the ROA as an indicator of how profitable a company is relative to its total assets.

In order to test the hypothesis and examine whether the application of IAS 19 has an impact on (ROA) as an indicator of profitability of the observed companies, we made a regression analysis in which the dependent variable is the ROA coefficient, while the independent variable is the application of IAS 19. The results of performed analyzes are shown in Table 5.

Table 5

Regression analysis with dependent variable ROA and independent variable IAS 19 implementation for 2018 and 2019

Year		Unstandardized coefficient	Std. Error	Standardized coefficient
2018	Constant	0.008	0.014	-
	Application of IAS 19	0.029	0.020	0.293
	R Square			0.086
	Regression			2.249
	p-value			0.147
2019	Constant	0.014	0.018	-
	Application of IAS 19	0.009	0.025	0.072
	R Square			0.005
	Regression			0.127
	p-value			0.725

Source: Own research conducted on a sample public entities

As stated earlier, the sample is relatively small given fact that it is based on population of companies owned by the Government of Federation of Bosnia and Herzegovina. In order to support the previous results we have merged two observed years and performed one regression analysis on the entire dataset. The diagnostic tests suggest that we can proceed with the interpretation of our results; the assumption homoscedasticity cannot be rejected at conventional levels of significance (Breusch-Pagan test for heteroskedasticity, Prob>chi2 is 0.7701).

Table 6

Descriptive statistics on IAS 19 application and ROA of public enterprises from the sample for entire dataset

Indicators	IAS 19	ROA
Mean	0.5	0.0206979
N	52	52
Std.Dev.	0.5048782	0.0564553

Source: Own research conducted on a sample public entities

Comparison of results is given in Table 7.

Table 7

Regression analysis with dependent variable ROA and independent variable IAS 19 implementation for 2018 and 2019 separately and for entire dataset (2018 + 2019)

Year	***2018***	***2019***	***2018 and 2019***
IAS application	0.147	0.725	0.226
Number of observations	26	26	52
R^2	0.0857	0.0053	0.0292

Note: Dependent variable: ROA
Significance level=0.05; Statistička značajnost=0,05

Source: Own research conducted on a sample public entities

Regression analysis showed that there is no statistically significant impact of IAS 19 application on the ROA coefficient of the observed enterprises in 2018 (p=0.147) and 2019 (p=0.725). When performing the regression analysis on entire dataset, the result is implying the same – there is no significant impact of IAS 19 application on ROA coefficient (p=0.226).

Additionally, to prove whether there is a statistically significant difference between the identified groups within the observed public enterprises a Mann-Whitney non-parametric test was conducted (Table 8). Since this is a comparison of two groups of independent data measured by ordinal or numerical scales, the distribution of which deviates from normal, the assumptions for the application of this test are met. The test results showed that there is not a statistically significant difference in the operating expenses, operating profit/loss and ROA in 2018 and in 2019 within identified groups of enterprises. The same can be concluded for operating revenues in 2019, which is not the case in 2018 since the p-value is less than 0.05.

Table 8

Mann - Whitney test for the difference in revenues, operating expenses, operating profit/loss and ROA of sample public enterprises in relation to the application of IAS 19 based on actuarial calculations for the years 2018 and 2019

Year	**Indicators**	**Operating revenues**	**Operating expenses**	**Operating profit/loss**	**ROA**
2018	Mann-Whitney U	46,000	52,000	57,000	62,000
	Wilcoxon W	137,000	143,000	148,000	153,000
	p-value	0.048	0.096	0.158	0.249
2019	Mann-Whitney U	49,000	53,000	59,000	65,000
	Wilcoxon W	140,000	144,000	150,000	156,000
	p-value	0.069	0.106	0.191	0.317

Source: Own research conducted on a sample public entities

Based on the conducted Mann-Whitney non-parametric testing and $p>0.05$, we can conclude that the hypothesis about implementation of IAS 19 (based on actuarial calculations) in public enterprises in FB&H does not have a significant impact on the financial performance, measured by operating profit or loss in financial statements and ROA calculated as the ratio of operating profit/loss to total assets can be accepted.

5. DISCUSSION AND CONCLUSION

Contrary to the popular belief that the application of IAS 19 increases costs and negatively affects financial performance indicators, research has shown that the application of IAS 19, and the use of calculations based on actuarial assumptions, has no significant impact on the financial performance of the enterprise. Therefore, the public enterprises should be encouraged to start implementing IAS 19 and its requirements.

The reason for that is the fact that the application of IAS 19 has multiple benefits for the company and employees. By a discreet decision on the amount of expenses recorded within the financial year in relation to other long-term employee benefits and termination benefits, business entities influence the distribution of the financial result by years and consequently the value of capital and shares. By reserving costs for other long-term employee benefits and termination benefits, companies create a reserve and provide the necessary funds to settle liabilities to employees upon their maturity, and thus prevent significant one-off blows to the financial result.

In addition to the financial effects of the application of IAS 19 that can be clearly identified, there are many non-financial benefits that come with the application of IAS 19. Adequate application of IAS 19 would provide security for employees. Namely, in a country with a poor social insurance system (with special reference to state provided pension insurance whose beneficiaries become all employees upon termination of employment), and without the possibility of concluding contracts for private pension insurance, adequate benefits paid with severance pay certainly contribute to a higher level of employee security.

Since the sample encompassed only public enterprises owned by the Government of the one entity in the country, it is the main limitation of the research at the same time. We focused only on public companies in the FB&H, since this is the first research on this topic in this area. In this sense, the proposal for future research would be to expand the research to the entire territory of Bosnia and Herzegovina, and to distinguish between public and private companies, as well as with regard to the origin of capital (domestic vs. foreign).

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UTJECAJ MRS 19 AKTUARNIH OBRAČUNA NA FINANCIJSKU UČINKOVITOST: NA PRIMJERU JAVNIH PODUZEĆA U FEDERACIJI BOSNE I HERCEGOVINE

Sažetak

Međunarodni računovodstveni standard 19 – Primanja zaposlenih opisuje računovodstvene zahtjeve za naknade zaposlenima, uključujući kratkoročna primanja, primanja poslije prestanka rada, ostala dugoročna primanja i otpremnine. Standard uspostavlja načelo da se trošak vezan za osiguravanje primanja zaposlenima treba priznati u razdoblju u kojem zaposlenik ostvaruje naknadu, a ne kada se ona isplaćuje, te navodi kako se mjeri svaka kategorija primanja zaposlenih. Cilj rada je utvrditi stupanj primjene MRS-a 19 u Federaciji Bosne i Hercegovine i njegov utjecaj na financijske izvedbe javnih poduzeća. Budući da nije dokazan značajan negativan utjecaj primjene MRS-a 19 na financijske izvedbe, preporučuje se da promatrani subjekti razmotre sve njegove prednosti i tako ostvare potencijalne koristi za tvrtku i zaposlenike.

Ključne riječi: MRS 19, primanja zaposlenih, financijske izvedbe, javna poduzeća, Bosna i Hercegovina.

JEL klasifikacija: G22, G32, M41, M51