ANALYSIS OF SUSTAINABLE GROWTH RATES OF COMPANIES INCLUDED IN THE MIXED HOLDING POWER UTILITY OF REPUBLIC OF SRPSKA

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ABSTRACT

This paper analyzes selected data on the performance of companies that are part of the power utility Elektroprivreda Republike Srpske with the aim of determining their sustainable growth rates. The energy sector was chosen because of its importance both for the Republic of Srpska capital market (measured by the participation in the total market capitalization of the Banja Luka Stock Exchange and the basic Stock Exchange index) and the entire Republic of Srpska economy (measured by the participation in gross domestic product). The analysis considered data from published financial statements for 2019, with an emphasis on the following: operating assets, liabilities, capital, operating income and net profit. The dividend policy was also considered, but it was concluded in the paper that none of the observed companies paid dividends from profit for 2019 by the end of this analysis. The research results show that the rate of sustainable growth exceeds 1% in only one case, while in several other cases there are negative rates of sustainable growth caused by the loss in the observed period. Such facts could raise concerns, but also indicate possible directions for future actions in order to improve the performance of the considered companies.

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1. INTRODUCTION

The energy sector is of great importance for the economy of the Republic of Srpska. According to the data from the Republika Srpska Institute of Statistics, the sector *Production and supply of electricity, gas, steam and air conditioning* participated in the gross domestic product with 6% in 2018. A special place within the sector belongs to the Mixed Holding Elektroprivreda Republike Srp-

ske (hereinafter: MH Elektroprivreda RS), composed of companies for production and distribution of electricity, as well as research, testing and development of electrical equipment.

The shares of subsidiaries that are the part of MH Elektroprivreda RS are listed on the organized market - Banja Luka Stock Exchange, and numerous data are available regarding their business and trading in their shares. In this research project, we collected appropriate data, performed the necessary analysis and assessed the sustainability of the growth rate of companies that are the part of MH Elektroprivreda RS.

In addition to the size and importance of the energy sector, we found motivation for our research in the fact that the Republic of Srpska financial market is facing numerous challenges, such as lack of public confidence, important problems and conflicts between shareholders and securities issuers as well as between shareholders and management, which leads to a long litigation before the courts. Our goal is to determine the potential for sustainable growth of revenue from sales of issuers from the Banja Luka Stock Exchange on a sample of 11 companies from MH Elektroprivreda RS.

The sustainability of growth for each company can be analyzed in several ways. The simplest approach involves analyzing the maximum growth rate of sales revenue in the context of interdependence and impact on the company profitability, dividend policy, asset management and financial leverage. In general, a sustainable growth rate is a maximum growth rate that a company can achieve without additional borrowing. Consequently, the sales revenue of any company cannot grow at rate higher than the sustainable growth rate, unless in the short run the growth is stimulated by the positive impact of one or more of the mentioned parameters of increased performance or by raising additional capital.

Companies whose sales revenue grows at rates higher than their sustainable growth rates, while financing growth by borrowing and maximizing the effects of leverage, will inevitably have financial problems in their operations and ultimately go bankrupt.

2. MATERIALS AND METHODS

The original sustainable growth rate model was developed by Higgins (<u>Higgins</u>, <u>1977</u>, <u>2011</u>). <u>Higgins (1981</u>) and <u>Johnson (1981</u>) examined and analyzed the impact of inflation on the company's sustainable growth rate. <u>Kester (2002</u>) in his discussions on this topic argued that commercial banks can use this approach

when analyzing the credit application of clients as one of the leading indicators of possible financial problems of the bank's clients.

In its simplest form, the sustainable growth of a company (g^*) is calculated by multiplying the retained earnings rate (R) by the rate of return on capital at the beginning of the observed period (ROE_{hop}):

$$g^* = R \times ROE_{bon}$$

R = retained earnings rate (part of earnings retained in the company)

$$ROE_{hop} = Net Profit / Capital_{hop}$$

It is important to note that when calculating the return on equity (ROE_{bop}) from the previous year, the net profit should be divided by the amount of capital at the beginning of the period in which the net profit is earned.

First of all, it is very useful to extend analytically the formula for calculating g^* so that the key equation factors reflect the components (determinants) of the company's return on equity (ROE_{bop}): net profit margin (P), asset turnover (A) and financial leverage (T):

$$g^* = P \cdot R \cdot A \cdot \hat{T}$$

P = Profit Margin (Net profit / Sales revenue)

R = Retained Earnings rate (Retained earnings / Net profit)

A = Assets Turnover (Sales revenue / Assets)

 \hat{T} = Financial Leverage (Assets / Capital_{bop})

A company's sales revenue should not grow at rate higher than its sustainable growth rate (g*) unless one or more components of the coefficients in the previous equation increase or the company obtains additional capital from the owner.

Thus, the sustainable sales revenue growth model is easy to use and provides an acceptable estimate of the maximum level of sales revenue growth which the observed company should achieve, given its current profit margin, profit retention rate, asset management and the impact of financial leverage. If the growth of sales revenue of a company exceeds g* and that company does not increase its profit margin, profit retention rate, asset turnover, or does not obtain additional capital from the owner, then the sales revenue growth (and thus asset growth) will have to be financed through more intensive leverage. Eventually, the company will be left without the capacity to borrow more, its creditors will reject additional credit applications, and this will make the company illiquid. In this situation, the company will not have much choice but to slow sales growth or obtain additional capital from the owner.

In any case, the discrepancy between the expected growth in sales revenue and the estimated rate of sustainable growth is a warning sign that financial difficulties in the company's operations will follow in the future. Calculating and estimating sustainable growth rate can be a convenient way to check the consistency of the company's business plans and future business projections. Management usually reduces the list of their wishes to the following: high growth of sales revenues, low level of debt, avoidance of dilution of capital, and high dividends. However, these goals are idealized and largely at odds with each other, so they have to be analyzed carefully and aligned as much as possible.

Based on the above, we believe that the model of sustainable growth rate is a good way to perform a sensitivity analysis of key variables that affect the growth of sales revenue of the company.

3. RESULTS AND DISCUSSIONS

MH Elektroprivreda RS consists of a parent company and 11 subsidiaries whose shares are listed on the Banja Luka Stock Exchange. These are the following issuers.

No.	Issuer	Sec.code				
Prod	Production					
1.	Hidroelektrane na Drini a.d. Višegrad	HEDR-R-A				
2.	Hidroelektrane na Vrbasu a.d. Mrkonjić Grad	HELV-R-A				
3.	Hidroelektrane na Trebišnjici a.d. Trebinje	HETR-R-A				
4.	RiTE Gacko a.d. Gacko	RITE-R-A				
5.	RiTE Ugljevik a.d. Ugljevik	RTEU-R-A				
Distr	Distribution					
6.	Elektrodistribucija a.d. Pale	EDPL-R-A				
7.	Elektrokrajina a.d. Banja Luka	EKBL-R-A				
8.	Elektrohercegovina a.d. Trebinje	EKHC-R-A				
9.	Elektro-Bijeljina a.d. Bijeljina	ELBJ-R-A				
10.	Elektro Doboj a.d. Doboj	ELDO-R-A				
Rese	Research and Development					
11.	Istraživačko razvojni centar elektroenergetike IRCE a.d. I.Sarajevo	IZEN-R-A				
ource: Banja Luka Stock Exchange						

Table 1. Overview of companies within MH Elektroprivreda RS

All mentioned shares, except for the shares of the issuer Istraživačko razvojni centar elektroenergetike IRCE a.d. I.Sarajevo, are listed on the official market of the Banja Luka Stock Exchange and traded using the continuous trading method. As a rule, better quality securities are listed on the official market, because there are numerous conditions that must be met for a security to be included and remain in this segment, such as requirements regarding capital size, dispersion of ownership, business performance and objectivity and frequency of financial reporting.

Total market capitalization of shares of issuers as members of MH Elektroprivreda RS on 31 December 2019 amounted to 302,195,428.64 BAM.

Sec.code	Number of Shares	Avg.Price	Last Trading Date	Market Capitalization
EDPL-R-A	15 795 899	0.28	27.12.2019	4 422 851.72
EKBL-R-A	92 276 622	0.14	30.12.2019	12 549 620.59
EKHC-R-A	20 048 466	0.40	4.12.2019	8 019 386.40
ELBJ-R-A	38 486 953	0.13	26.12.2019	5 195 738.66
ELDO-R-A	31 117 961	0.45	27.12.2019	14 003 082.45
HEDR-R-A	441 955 312	0.24	26.12.2019	107 395 140.82
HELV-R-A	102 354 487	0.38	11.11.2019	38 894 705.06
HETR-R-A	385 164 196	0.22	26.12.2019	84 736 123.12
RITE-R-A	379 959 879	0.04	30.12.2019	14 438 475.40
RTEU-R-A	256 013 165	0.05	30.12.2019	12 288 631.92
IZEN-R-A	5 033 450	0.05	28.12.2018	251 672.50
Total Market Capitalization302 195 428.64				

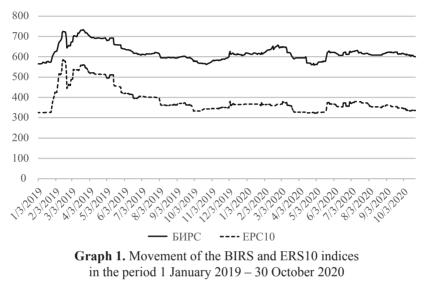
Table 2. Market capitalization of shares of issuers as members of MH ElektroprivredaRS on 31 December 2019

Source: Banja Luka Stock Exchange

Total market capitalization of the Banja Luka Stock Exchange on 31 December 2019 amounted to 3,786,287,076.10 BAM, which means that the share of Elektroprivreda shares in the total market capitalization amounted to almost 8%.

All mentioned shares are part of the index of the Elektroprivreda RS companies (ERS10). The last revision of this index from 22 May 2020 showed that shares HEDR-R-A, HETR-R-A and HELV-R-A had the largest share in index - collectively more than 75%.

Also, Elektroprivreda shares are included in the Republic of Srpska Stock Exchange Index (BIRS) with about 40%, which means that the movement of their prices significantly determines the movement of the stock exchange index. A comparative overview of the movements of the BIRS and ERS10 indices is given in the following graph:



Source: Banja Luka Stock Exchange

The graph shows that there is a very pronounced correlation between the two observed stock exchange indices. The biggest oscillations were recorded in the first half of 2019, when the market reacted strongly to the news regarding the reorganization of MH Elektroprivreda RS. The prices of the subject shares recorded a significant increase – daily maximum of 20%, while the cumulative change in the official price of some shares exceeded 300%. In the third quarter of 2019, the market situation stabilized and prices returned to their previous levels. All of the above indicates the importance of the energy sector for the capital market, but also for the entire Republic of Srpska economy.

In our research, we used financial data from publicly available financial statements of all issuers included in the MH Elektroprivreda RS system, whose shares are listed on the official market of the Banja Luka Stock Exchange. The focus of our interest was data for 2019. For these companies, we calculated the sustainable growth rate g* as presented in the following table.

No.	Sec. code	lssuer ⁻	Assets	Liabilities	Net Profit	Capital	Sales Revenue	Dividend Jnomyrg	Ч	ы	V	E	ůć,
-	EDPL-R-A	Elektrodistribucija a.d. Pale	149 425 733	66 249 997	529 420	82 646 316	47 746 648		1.11%	-	0.32	1.81	0.64%
7	EKBL-R-A	Elektrokrajina a.d. Banja Luka	547 660 245	253 390 560	642 677	293 627 008	216 199 877		0.30%	1	0.39	1.87	0.22%
ŝ	EKHC-R-A	Elektrohercegovina a.d. Trebinje	62 510 409	12 514 287	206 098	49 790 023	26 156 012		0.79%	1	0.42 1.26	1.26	0.41%
4	ELBJ-R-A	Elektro-Bijeljina a.d. Bijeljina	274 880 290	92 453 341	252 377	175 606 001	88 908 104		0.28%	1	0.32	1.57	0.14%
5	ELDO-R-A	Elektro Doboj a.d. Doboj	313 775 302	36 501 498	420 284	276 843 686	66 232 759		0.63%	1	0.21	1.13	0.15%
9	HEDR-R-A	Hidroelektrane na Drini a.d. Višegrad	633 763 576	50 187 762	29 722	591 095 610	28 331 863		0.10%	1	0.04 1.07	1.07	0.01%
Г	HELV-R-A	Hidroelektrane na Vrbasu a.d. Mrkonjić Grad	279 423 770	28 356 146	4.089 669	246 977 954	20 453 489	ı	19.99%	-	0.07	1.13	1.66%
8	HETR-R-A	Hidroelektrane na Trebišnjici a.d. Trebinje	971 431 700 54 731 204	54 731 204	-13 067 475	929 924 131	37 063 989		-35.26%	1	0.04 1.04	1.04	-1.41%
6	RITE-R-A	RiTE Gacko a.d. Gacko	533 644 786	118 881 624	-13 576 311	430 244 970	104 689 098	ī	-12.97%	1	0.20	1.24	-3.16%
10	RTEU-R-A	RiTE Ugljevik a.d. Ugljevik	690 637 976	288 198 003	-4 252 944	406 692 917	132 993 064	ı	-3.20%	1	0.19 1.70	1.70	-1.05%

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Several conclusions can be drawn from the presented data. First of all, the rate of sustainable growth exceeds 1% in only one case (Hidroelektrana na Vrbasu a.d. Mrkonjić Grad with 1.66%), and there are three cases in which this rate is negative due to the loss in the observed period (RiTE Gacko a.d. Gacko with -3.16%, Hidroelektrane na Trebišnjici a.d. Trebinje with -1.41% and RiTE Ugljevik a.d. Ugljevik with -1.05%). For all other issuers, the sustainable growth rate hardly has positive values.

Furthermore, by the end of this analysis, none of the observed issuers paid dividends for 2019, so the retained earnings rate for all of them equals 100%. The best business result was achieved by Hidroelektrane na Vrbasu a.d. Mrkonjić Grad with 4 089 669 BAM of net profit, while the above mentioned three issuers (RiTE Gacko a.d. Gacko, Hidroelektrane na Trebišnjici a.d. Trebinje and RiTE Ugljevik a.d. Ugljevik) made a loss of several million convertible marks.

If we look at these results in the context of size and importance of companies within MH Elektroprivreda RS for the entire capital market, as well as the results obtained by analyzing the movements of the ERS10 and BIRS indices, we can conclude that the financial market in the Republic of Srpska does not perform adequately its basic functions of allocation and distribution of funds on economic activities that are marked by investors as profitable. On the contrary, shares from the official stock market, which should represent the highest quality financial instruments, have very low sustainable growth rates (in some cases even negative), which calls into question their essential quality and attractiveness to potential investors.

Seeking answers to the question of insufficient efficiency of the Banja Luka Stock Exchange, some authors analyzed the special elements of its functioning. The mentioned authors (Andrić and Vuković, 2011) analyzed in their work the financial reports of companies from the Banja Luka Stock Exchange (analysis of financial, property and yield position of 40 production companies whose shares are traded on the Banja Luka Stock Exchange) and assessed the financial performance of these companies. The research results indicate poor performance of the companies seen through the prism of key determinants of financial, property and yield position. The authors believe that the minimum performance of the companies is a result of disturbed financial balance, endangered liquidity and solvency, poor efficiency of total assets, and low profitability. In conclusion, they do not expect significant changes in operations of these companies. In addition to the above, Kester and Radivojac (2011) conducted a comprehensive study of the financial policy and the practice of companies whose shares are listed on the Banja Luka Stock Exchange. The research focused on three main areas of

the financial policy and practice: capital structure, dividend policy and financial planning. The results of the research, among other conclusions, indicated a specific perception of CEOs of market efficiency. Namely, only one of the respondents believed that the company's shares were fair valued in the market more than 80% of the time, while 36.4% of respondents stated that their companies' shares were fair valued "less than 50% of the time". The authors left open the question whether this perception is the result of (in)efficiency of the Banja Luka Stock Exchange or a consequence of the global financial crisis.

As stated earlier, the company's growth sustainability can be analyzed based on the maximum growth rate of sales revenue in the context of interdependence and the impact on company's profitability, dividend policy, asset management, and financial leverage.

The change in the sales revenue in 2019 compared to 2018 is shown in the following table, along with the sustainable growth rate of the analyzed companies:

No.	Issuer Code	2019 Revenue	2018 Revenue	% Change	g*
1	EDPL	47 746 648	48 000 256	-0.53%	0.64%
2	EKBL	216 199 877	225 009 942	-3.92%	0.22%
3	EKHC	26 156 012	26 962 467	-2.99%	0.41%
4	ELBJ	88 908 104	93 801 705	-5.22%	0.14%
5	ELDO	66 232 759	72 976 341	-9.24%	0.15%
6	HEDR	28 331 863	38 814 582	-27.01%	0.01%
7	HELV	20 453 489	16 796 662	21.77%	1.66%
8	HETR	37 063 989	66 457 177	-44.23%	-1.41%
9	RITE	104 689 098	114 446 747	-8.53%	-3.16%
10	RTEU	132 993 064	145 558 751	-8.63%	-1.05%

Table 4. Change in the sales revenue of companies within MH Elektroprivreda RS in2019 compared to 2018

Source: Authors' calculation

The presented comparative data show a decrease in revenue for nine out of ten issuers, with the largest decrease recorded for issuers HETR in the amount of -44.23% and HEDR in the amount of -27.01%. Revenue growth was recorded for the issuer HELV in the amount of 21.77%. Revenue growth potential, expressed by sustainable growth rate, is present in seven out of ten analyzed issuers.

Starting from the premise that the sales revenue of any company cannot grow at rate higher than the sustainable growth rate and that negative or insufficient growth rates lead to even worse business results in the future, we can conclude several things. Table 5 shows that the first six issuers (EDPL, EKBL, EKHC, ELBJ, ELDO and HEDR) have a negative trend in operating revenues (decrease in 2019/2018) with the simultaneous existence of a positive sustainable growth rate, which means that there is room to increase revenue in the coming period to the level of these sustainable rates. Revenue growth for issuer HELV is not sustainable because it is higher than the sustainable growth rate (21.77% compared to 1.66%) and revenue can be expected to decrease in the coming period. For other issuers (HETR, RITE and RTEU) both indicators have negative values, which means that these issuers currently have no potential for growth and that the negative trend is likely to continue unless significant changes in the business policy are made.

Having in mind the above, the results of our calculations show that in most cases there is significant room for improvment of business performance of the analyzed issuers and the growth of their revenues, which should be stimulated by obtaining additional capital from company owners.

5. CONCLUSIONS

In this research project, we collected relevant data, performed their analysis and assessed the sustainability of growth rates of companies included in the MH Elektropriveda RS. The sustainability of each company's growth can be analyzed in several ways, but the simplest approach involves analyzing the maximum growth rate of sales revenue in the context of interdependence and the impact on the company's profitability, dividend policy, asset management and financial leverage.

The sales revenue of any company cannot grow at rate higher than the sustainable growth rate, unless in the short term the growth is stimulated by the positive impact of one or more of the mentioned parameters of performance increase or by obtaining additional capital.

A brief analysis and calculation of the sustainable growth rate of the company within MH Elektroprivreda RS found that the rate of sustainable growth in only one case exceeds 1% (for the issuer HELV it is 1.66%), and that there are three cases in which this rate is negative due to the loss in the observed period (RITE with -3.16%, HETR with -1.41% and RTEU with -1.05%).

At the same time, the presented data indicate a decline in revenues in 2019 for nine out of ten issuers, which is especially noticeable for issuers HETR in the amount of -44.23% and HEDR in the amount of -27.01%. Revenue growth was

recorded by the issuer HELV in the amount of 21.77%. Revenue growth potential, expressed by the sustainable growth rate, is present in seven out of ten analyzed issuers. For issuers EDPL, EKBL, EKHC, ELBJ, ELDO and HEDR, there is room for increasing revenues in the coming period to the level of their sustainable rates, because the change in income is lower than the sustainable growth rate. For the issuer HELV, revenue growth is not sustainable because it is far higher than the sustainable growth rate and revenue reduction can be expected in the coming period. For other issuers (HETR, RITE and RTEU) both indicators have negative values, which means that these issuers currently have no potential for growth and that the negative trend is likely to continue unless there are significant changes in the business policy.

Having in mind the above, the results of our calculations show that in most cases there is significant room for improving the business performance of the analyzed issuers and the growth of their revenues, which should be stimulated by obtaining additional capital from company owners.

Conflict of interests

The authors declare there is no conflict of interest.

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АНАЛИЗА ОДРЖИВЕ СТОПЕ РАСТА ПРЕДУЗЕЋА КОЈА УЛАЗЕ У САСТАВ МЈЕШТОВИТОГ ХОЛДИНГА ЕЛЕКТРОПРИВРЕДА РЕПУБЛИКЕ СРПСКЕ

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САЖЕТАК

Овај рад се бави анализом одабраних података о пословању предузећа која улазе у састав Мјешовитог холдинга Електропривреда Републике Српске са циљем утврђивања одрживих стопа раста сваког од њих. Енергетски сектор је одабран због његовог значаја како за тржиште капитала Републике Српске (мјерено учешћем у укупној тржишној капитализацији Бањалучке берзе и основном берзанском индексу), тако и за цјелокупну привреду Републике Српске (мјерено учешћем у бруто домаћем производу). У анализи су кориштени подаци из објављених финансијских извјештаја за 2019. годину, са нагласком на ставке: пословна актива, обавезе, капитал, пословни приходи и нето добит. Посматрана је и политика дивиденди, али је у раду утврђено да до дана сачињавања ове анализе ниједно од посматраних предузећа није вршило исплату дивиденде из добити за 2019. годину. Резултати истраживања показују да стопа одрживог раста само у једном случају прелази 1%, док је код неколико емитената примјетна и негативна стопа одрживог раста изазвана губитком у посматраном периоду. Овакве чињенице могу представљати основ за забринутост, али и указати на могуће правце будућег дјеловања у циљу побољшања перформанси посматраних предузећа.

Кључне ријечи:

одрживи раст, приходи, Бањалучка берза, Електропривреда