What Happened After Electricity Market Liberalisation - State Owned Electric Utilities in Bosnia and Herzegovina

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Abstract

One of the biggest questions battling government of Bosnia and Herzegovina is performance of Electric Utilities, as they are one of the biggest resources and largest State Owned Enterprises. This issue became more important as of January 1st 2015 electricity market has been liberalized and fully opened and all customers have the ability to freely choose their supplier of electricity. Before January 1st 2015 state owned Electric Utilities operated in monopoly market where competition was not possible. Therefore, due to market liberalisation existing companies will need to be more competitive than before in order to grow and survive new competition from neighboring countries and EU. Paper analyses performance of State Owned Electric Utilities listed on the Banja Luka and Sarajevo Stock Exchange in period after opening of electricity market. Measuring the success of the State Owned Electric Utilities is based on the analysis of financial statements for period from 2015 to 2019, using indicators of profitability and market indicators. The results reveal that State Owned Electric Utilities from Bosnia and Herzegovina have poor performance indicators. The broad conclusion that emerges from the results is that electricity market in Bosnia is still not liberalised and open and that state owned Electric Utilities still operated in monopoly market as they continue to survive with very poor performance indicators. In order to improve government has to conduct extensive reforms and reorganization of its Electric Utilities in order to survive when new competition enters market.

Keywords: Competition, Market Liberalisation, Performance, State Owned Electric Utilities

1. Introduction and literature review

Performance of State owned electric utilities are essential for the reform of the electricity sector in every country. One of the biggest questions battling government of Bosnia and Herzegovina is performance of Electric Utilities, as they are one of the biggest resources and largest State Owned Enterprises. This issue became more important as of January 1st 2015 electricity market has been liberalized and fully opened and all customers have the ability to freely choose their supplier of electricity. Before this state owned Electric Utilities operated in monopoly market where competition was not possible.

Based on Law on Transmission of Electric Power, Regulator and System Operator in BIH the State Electricity Regulatory Commission of Bosnia and Herzegovina has passed decision on scope, conditions and time schedule of the electricity market opening in Bosnia and Herzegovina. This decision, made in 2006, has proposed steps and flow of electric market opening in Bosnia and Herzegovina. The electricity market opening had proceeded gradually,

and the main aim of the opening is the creation, maintenance and development of competitive conditions among participants in the electricity market. Therefore, existing companies will need to be more competitive than before in order to grow and survive new competition from neighboring countries and EU.

Electricity market opening in Bosnia and Herzegovina was implemented in accordance with the time schedule according to which the eligible customer status may be acquired.

- as of January 1, 2007, all customers with annual consumption of electricity higher than 10 GWh,
- as of January 1, 2008, all customers with annual consumption higher than 1 GWh,
- as of January 1, 2009, all customers except households, and
- as of January 1, 2015, all electricity customers.

There are numerous reasons for establishing or retaining public enterprises, especially if we consider resources that are very important for country, society and from witch most of the government budget is financed. Jones and Mason (1982) categorized as follows: ideological predilection, acquisition or consolidation of political or economic power, historical heritage and inertia, and pragmatic response to economic problems. Friedmann and Garner (1970) also used four categories: promotion and acceleration of economic development, defensive reasons, controlling monopoly industries, and political ideology. Peterson (1985) argued that SOEs are established to pursue national goals, economic efficiency, weakness of the POEs, and political ideology.

SOEs have been driving force for development and growth of many countries. However, in the realm of public policy, one of the most unprecedented global features in the last quarter of the twentieth century has been privatization. During the period, governments all over the world introduced various forms of privatization irrespective of their economic context, political orientation and ideological position (Haque, 2000). There are different views of privatization and its effects on performance of companies as well as on benefits of privatization for country and its economic growth. One group of authors support privatization and argue that it has positive impacts on company performance and country's economics development (Magginson and Netter, 2001; Vickers and Yarrow, 1995; Dewenter and Malatesta, 2001; D'Souza and Megginson, 1999 and others). On the other hand, other group of authors does not support privatization of strategically important enterprises and argue that privatization has negative impacts country's economics development and growth (Campbell-White and Bhatia, 1998; Bayliss, 2002 and others).

While Bozec, R., Breton, G. and Côté, L. (2002) in its research of state–owned enterprises and private firms for the period 1976–1996 argue that state owned enterprises "when their main goal is to maximize profit, perform as well as the privately owned enterprises. Therefore, the alleged under–performance of the state–owned enterprises may only be the result of pursuing other goals."

Despite all these arguments most of the countries around the world have kept its Electric Utilities under the government ownership in full or partial control. Reason for this is that Electric Utilities are of great importance for economic prosperity of every country and they are often one of the biggest resources and largest State Owned Enterprises. Therefore, its

performance and competitiveness is very important especially when electricity market has been liberalized and fully opened for new competition.

2. Methodology and research hypothesis

Paper analyses performance of State Owned Electric Utilities listed on the Banja Luka and Sarajevo Stock Exchange in period after complete opening of electricity market to all electricity customers and providers.. Measuring the success of the State Owned Electric Utilities is based on the analysis of financial statements for period of five years, from 2015 when market we completely open to last financial year 2019, using indicators of profitability and market indicators. In order to measure performance of these companies we have defined Key Performance Indices (KPIs).

Key Performance Indices are as following:

- Return on Equity (ROE)
- Return on Assets (ROE)
- Operating Margin
- Net profit Margin
- Equity Ratio
- Sales/Total Asset Ratio (S/T)
- Net income per employee
- Tobin's Q

Performance data was collected for sample of 12 State Owned Electric Utilities from Bosnia and Herzegovina. This 12 Electric Utilities present 100% population of State Owned Electric Utilities in Bosnia and Herzegovina, therefore, research takes whole population into consideration. As all State Owned Electric Utilities are listed on Stock Exchange (Banja Luka or Sarajevo Stock Exchange) Tobin's Q will be calculated for all companies.

The research data was gathered from companies' annual reports, the database of the Banja Luka Stock Exchange and the Sarajevo Stock Exchange and companies' web pages.

To offer useful answers to the research problem and realize the study objectives, the following hypotheses were tested:

H1: State Owned Electric Utilities from Bosnia and Herzegovina have poor performance in period after opening of electricity market based on the Key Performance Indices.

H2: State Owned Electric Utilities from Bosnia and Herzegovina, based on results, are not competitive in market.

3. Results and discussion

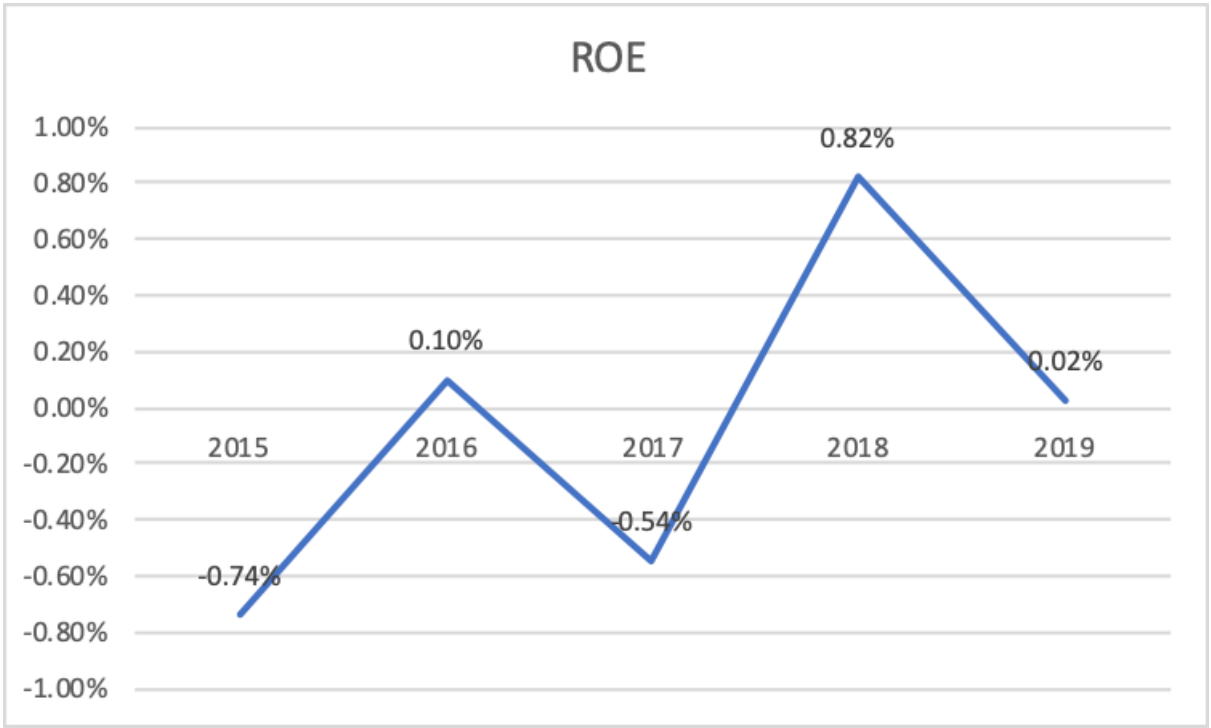
Research data acquired for 12 Bosnian State Owned Electric Utilities were analyzed according to Key Performance Indices. Table 1. presents descriptive statistics of Key Performance Indices for Bosnian State Owned Electric Utilities in cumulative amount for 5 years.

Table 1. Descriptive statistics of KPIs for State Owned Electric Utilities

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	59	-.0005576	.0136895	-.0462	.0456
ROA	58	-.0005914	.0114143	-.0375	.0347
Operating margin	57	-.0010579	.0988642	-.3139	.2597
Net profit nargin	57	-.0003754	.0877513	-.3526	.2114
Equaty ratio	60	.7896767	.1412496	.5307	1.0254
Net income per employee	59	110270	52407.13	35245.36	249032.8
S/T	60	.238	.126032	.02	.43
Tobin's Q	60	.6683333	.2065468	.3	.95

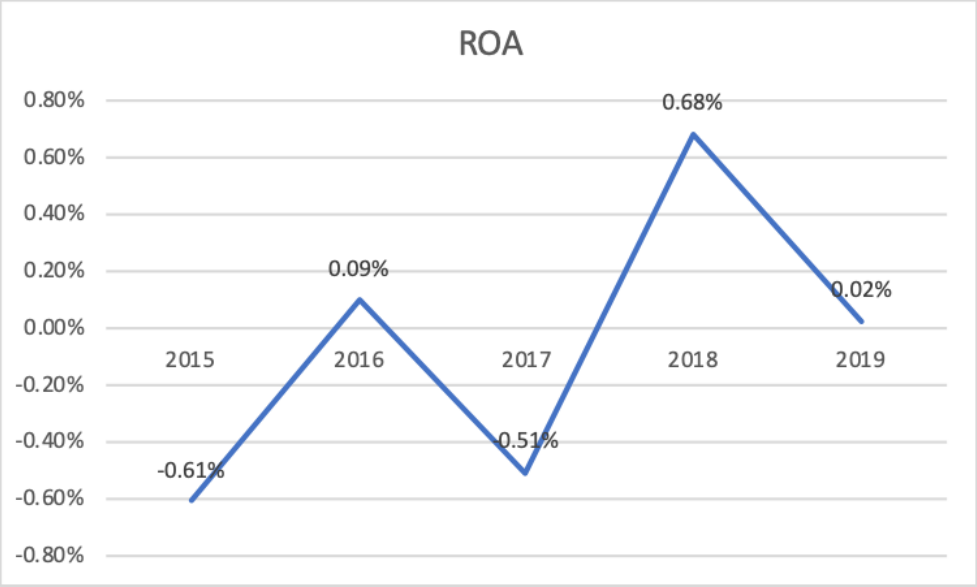
Figure 1. indicates that State Owned Electric Utilities from Bosnia and Herzegovina have very low Return on Equity. Moreover, State Owned Electric Utilities from Bosnia and Herzegovina have in several years negative ROE which only in one year goes over 0.80%. This shows that companies from Bosnia and Herzegovina are not efficient in using shareholders capital in generating profits.

Fig. 1. Return on Equity (ROE) for State Owned Electric Utilities



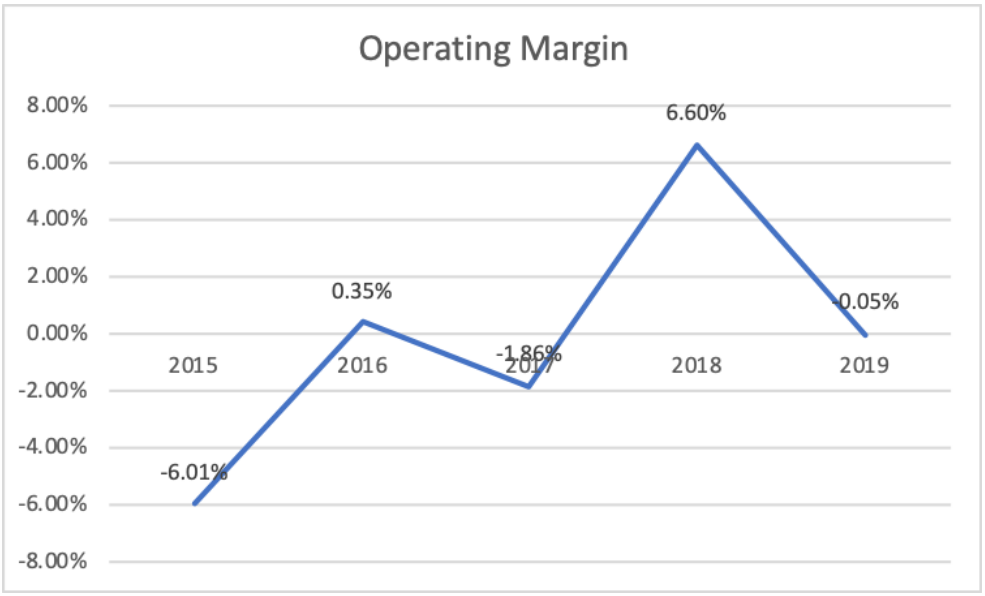
Similar situation is shown in Figure 2. where State Owned Electric Utilities from Bosnia and Herzegovina have very low Return on Asset which is negative or very low and never rises over 0.68%. This shows that companies from Bosnia and Herzegovina not efficient in utilization of its assets, which is one of the most important factors in Electric Utilities.

Fig. 2. Return on Asset (ROA) for State Owned Electric Utilities



Data from Figure 3. and Table 1. shows that in analyzed period after market liberalization State Owned Electric Utilities from Bosnia and Herzegovina on average have negative Operating Margin of -0.19% while only in 2018 Operating margin is higher and 6.60% . This results indicates that State Owned Electric Utilities are not managed well and that they are not efficient in converting sales into profit.

Fig. 3. Operating Margin for State Owned Electric Utilities



Similar situation is with Net Profit Margin of analyzed State Owned Electric Utilities. Data from Figure 4. and Table 1. shows that in analyzed period State Owned Electric Utilities from Bosnia and Herzegovina on average have negative Net Profit Margin of -0.05%. Lower Net Profit Margin of State Owned Electric Utilities indicates that they are less profitable and less efficient in converting revenue into actual profit. Moreover, it shows that they have poorer control over its costs.

Fig. 4. Net Profit Margin for State Owned Electric Utilities

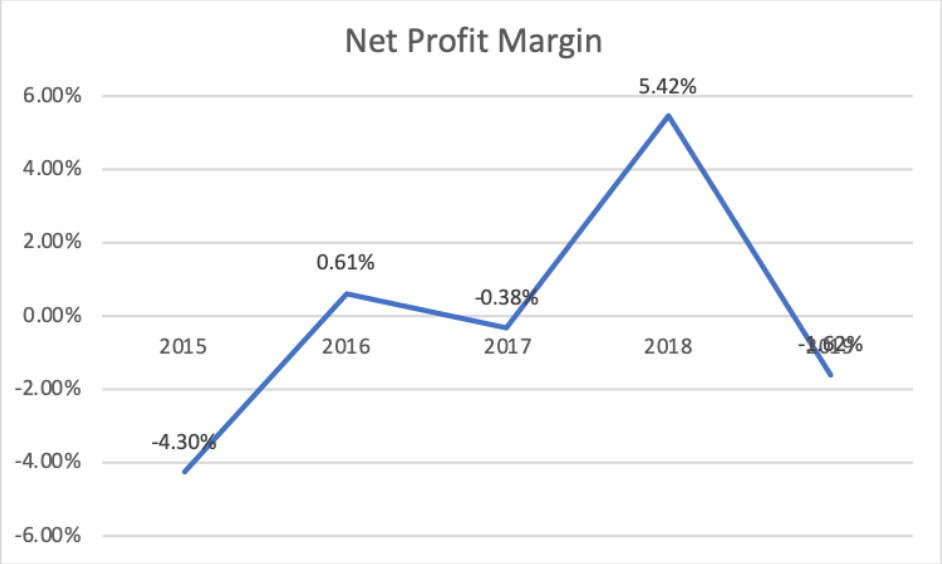
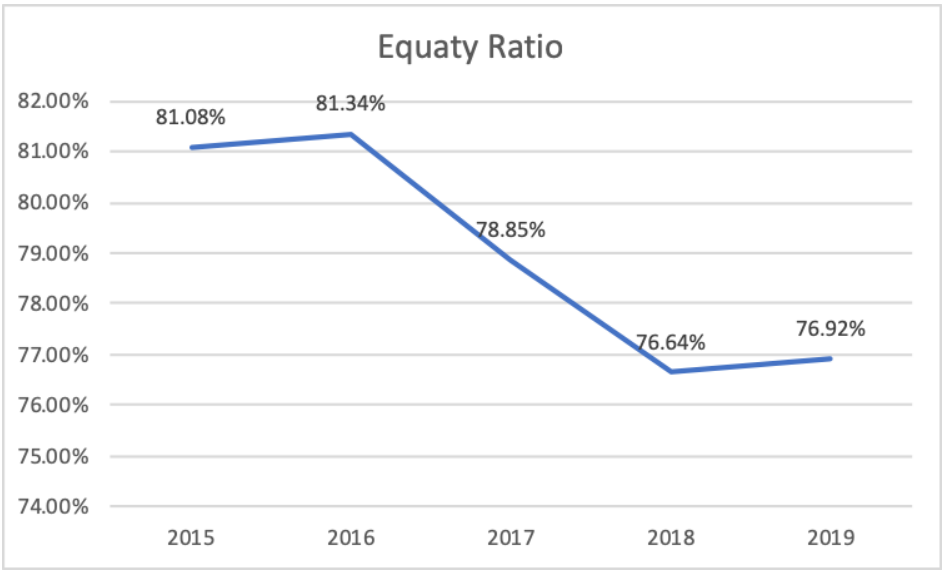


Figure 5. shows larger percentage of assets of State Owned Electric Utilities from Bosnia and Herzegovina are financed/owned by shareholders, which is not the case in State Owned Electric Utilities from many other countries in region where almost half of assets are financed by debt. Bosnian State Owned Electric Utilities have not had large investments in asset and therefore did not require large financing. This high Equity Ratio shows that State Owned Electric Utilities have been largely financing its assets by its equity and it means that they will be able to processed with future investment projects and they do not have large obligations to its creditors.

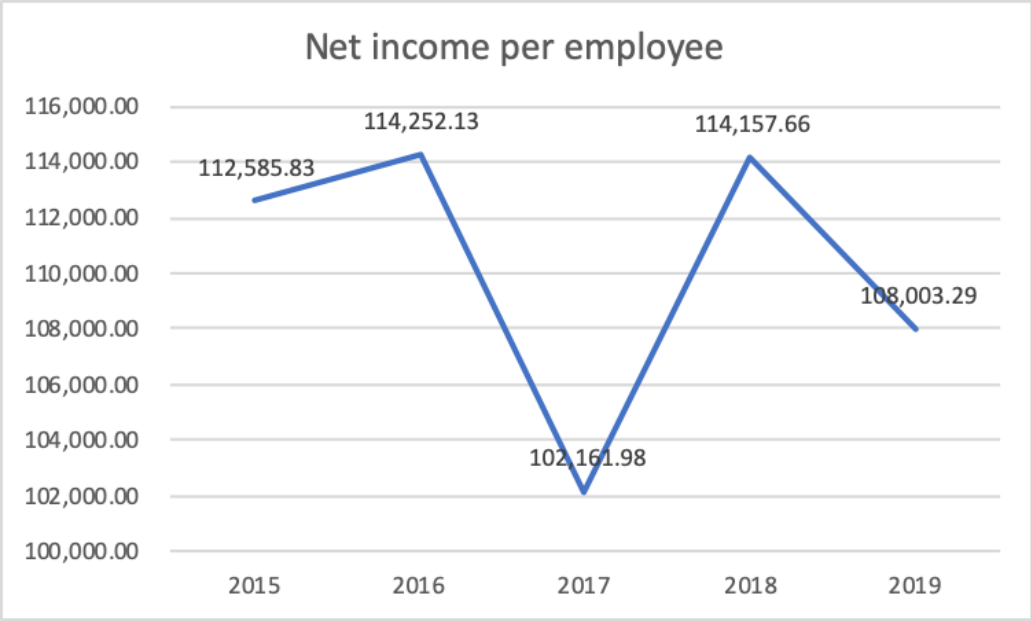
Fig. 5. Equity Ratio for State Owned Electric Utilities



Analysis of indicate that in analyzed period State Owned Electric Utilities from Bosnia and Herzegovina have average Net Income per employee of 110,232.18 BAM. Electric Utilities have constant Net Income per employee of more than 100,000 BAM in analyzed period.

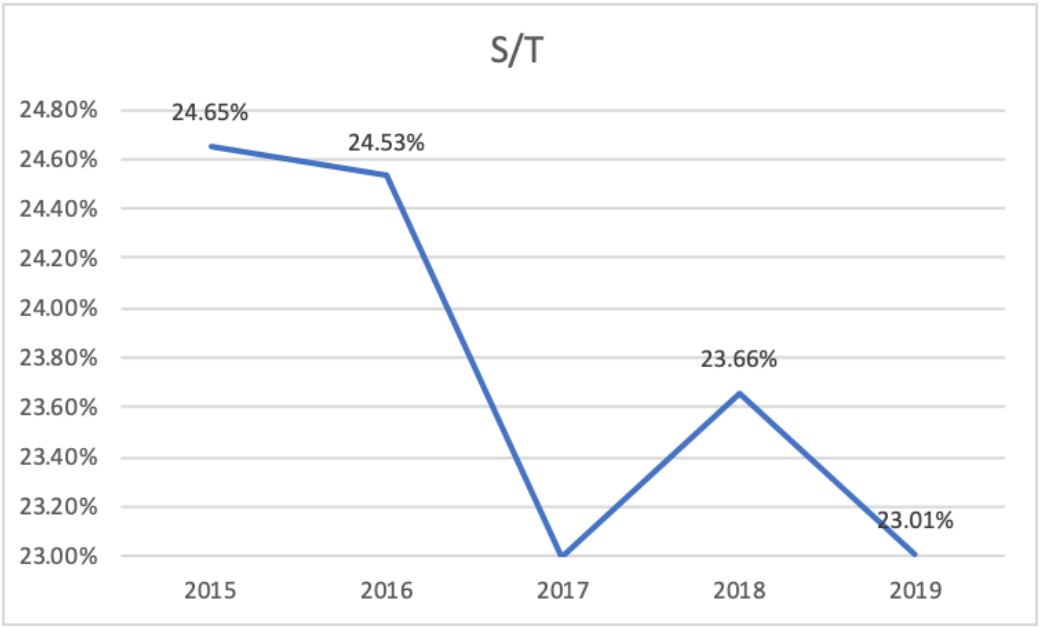
However, when comparing with State Owned Electric Utilities from region State Owned Electric Utilities from Bosnia and Herzegovina have 4 to 7 times lower Net Income per employee. This shows that managers of Bosnian State Owned Electric Utilities do not have ability to use their human resources efficiently to create profits for company. Furthermore, this indicates overemployment in State Owned Electric Utilities.

Fig. 6. Net Income per employee for State Owned Electric Utilities



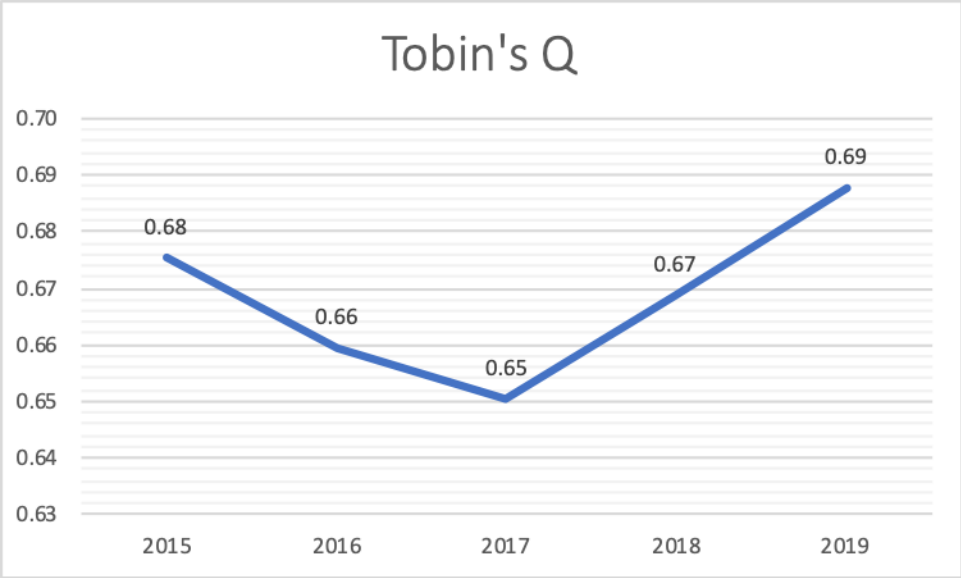
Data from Figure 7. shows that in analyzed period State Owned Electric Utilities from Bosnia and Herzegovina have constant decrease of S/T ratio. Therefore, State Owned Electric Utilities are not efficient in managing assets at its disposal to generate sales revenue.

Fig. 7. S/T Ratio for State Owned Electric Utilities



Tobin's Q ratio was calculated for all of the State Owned Electric Utilities as they are listed on the Stock Exchange. In analyzed period State Owned Electric Utilities on average have Tobin's Q value of 0.67, and value lower than 1 in every year, which indicates that they have poor financial strength and poor performance in a financial markets. As a result, it means that State Owned Electric Utilities do not create a value for its shareholders.

Fig. 8. Tobin's Q for State Owned Electric Utilities



4. Conclusion

Issue of performance and competiveness of State Owned Electric Utilities from Bosnia and Herzegovina became of grate importance as of January 1st 2015, when electricity market has been liberalized and fully opened and as they no longer operated in monopoly market where competition was not possible.

As it can be seen from results of analysis of State Owned Electric Utilities from Bosnia and Herzegovina, government has to deal with the issue of performance and competiveness of these companies.

Research results and discussion confirm research hypotheses, which state that State Owned Electric Utilities from Bosnia and Herzegovina have poor performance in period after opening of electricity market based on the Key Performance Indices, and that State Owned Electric Utilities from Bosnia and Herzegovina, based on results, are not competitive in market.

Thought analysis of sample companies it can be concluded that Bosnian State Owned Electric Utilities are not well governed and that government is not doing much to change situation in these companies. Moreover, big problem presents overemployment, which is also result of poor governance of these companies and not including experts in boards and top management positions in companies. In period after the liberalization of electricity market in neighboring countries there has been a steer towards lower employment rates in order to achieve more efficient economic operations and optimize business processes. This also needs to be one

of primary goals of Bosnian government and government should learn lessons from its neighboring countries whom already went trough this process.

Research result also show that electricity market in Bosnia and Herzegovina is only open on paper but government did not allow real competition and that State Owned Electric Utilities still operate in monopoly market where competition was not possible.

As government is not willing to deal with the problems of poor performance and competiveness of its State Owned Electric Utilities even after the indicial opening of market only real opening and liberatisation of electricity market in Bosnia and Herzegovina will force government to conduct extensive reforms in governance of its Electric Utilities in order for them to survive new competition.

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Anex 1: Descriptive statistics of KPIs per year for State Owned Electric Utilities

-> year = 2015					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
ROE	11	-.0074	.0187111	-.0462	.0046
ROA	11	-.0061364	.0154726	-.0375	.0042
Operating margin	12	-.0601333	.0959324	-.2815	.0786
Net profit nargin	12	-.042975	.101857	-.2815	.0735
Equaty ratio	12	.8108417	.1441315	.5742	1.0254
Net income per employee	12	112585.8	49524	63182.86	205277.2
S/T	12	.2483333	.1243041	.05	.38
Tobin's Q	12	.6758333	.2083903	.32	.92
-> year = 2016					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
ROE	12	.0010083	.0038192	-.0096	.0067
ROA	12	.0009083	.0031123	-.0075	.0055
Operating margin	12	.0035417	.0472523	-.09	.0712
Net profit nargin	12	.0061	.01587	-.0367	.0221
Equaty ratio	12	.8134167	.1359214	.5605	1.0103
Net income per employee	12	114252.1	50468.49	65046.96	216223.2
S/T	12	.2458333	.1309725	.05	.4
Tobin's Q	12	.66	.2152799	.33	.93

-> year = 2017					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
ROE	12	-.0054333	.0108831	-.026	.0041
ROA	12	-.0051	.0098389	-.0248	.0032
Operating margin	9	-.0186333	.0575334	-.165	.0241
Net profit nargin	9	-.0037556	.0247197	-.0686	.0145
Equaty ratio	12	.788525	.147332	.554	.9811
Net income per employee	12	102162	61889.79	35245.36	249032.8
S/T	12	.23	.1398051	.02	.42
Tobin's Q	12	.65	.2265552	.32	.93
-> year = 2018					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
ROE	12	.008225	.0133553	-.008	.0456
ROA	12	.006775	.0103229	-.0053	.0347
Operating margin	12	.066	.090936	-.0525	.2397
Net profit nargin	12	.05415	.0762353	-.0225	.2114
Equaty ratio	12	.7664083	.1480793	.5307	.9383
Net income per employee	12	114157.7	51785.8	60203.44	240470.9
S/T	12	.2358333	.1263083	.06	.43
Tobin's Q	12	.6675	.2071945	.3	.92
-> year = 2019					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
ROE	12	.0002417	.0140775	-.0321	.0216
ROA	11	.0002	.0119229	-.0254	.017
Operating margin	12	-.0004583	.1365933	-.3139	.2597
Net profit nargin	12	-.0162417	.1294828	-.3526	.1999
Equaty ratio	12	.7691917	.1482438	.5373	.9437
Net income per employee	11	108003.3	56023.32	51122.74	239233.1
S/T	12	.23	.1294745	.04	.42
Tobin's Q	12	.6883333	.2094075	.32	.95