

ECONOMIC AND FINANCIAL STABILITY FOR WATER and WASTEWATER OPERATORS IN ROMANIA

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Abstract: *The financial stability of public enterprises in the field of water and sewer must be a vital feature. An economically unstable enterprise, which is threatened by incapacity for payment and bankruptcy, cannot ensure an activity of general public interest. This empirical research is based on the data obtained from the annual financial statements of regional water and sewerage operations in Romania for 2014-2019. Based on these data we calculated working capital, working capital requirements and net treasury. The processed data were grouped by the seven development regions and the average values were calculated. In the research we started from the average values at national level, comparing them with the average values obtained by development regions. Although there are quite large deviations from one development region to another compared to the national average, in all regional water and sewerage operators the net treasury has positive value. We examined whether there is a correlation between the economic performance of a water and sewerage operator and the three variables: working capital, required working capital and net treasury. The result of the statistical analysis is significant and confirms the existence of this correlation. The existing correlation does not determine the direction of the correlation, i.e. whether the net profit has an effect on working capital, working capital requirements and net treasury or vice versa. The research shows that public enterprises in the water and sewerage sector are financially stable in the period 2014-2019. We in the conclusions also presented the possibilities for expanding the research in future periods.*

Keywords: *water utility financial stability, working capital, public enterprise.*

Classification JEL: *L95, Q25, M21, M49*

1. Introduction

Both researchers and practitioners believe that the economic and financial stability of an enterprise is an essential condition for optimal functioning. The financial stability of an enterprise reduces the effects of changing market factors and becomes an advantage in obtaining loans, capital from potential investors and choosing business partners.

In the case of Public Enterprises in general and water and sewerage operators in particular, economic stability is paramount, as they provide basic public services for society. Financially stable enterprises under capable of

economic growth and in this way generate new jobs and taxes paid to the state budget.

In these conditions it is especially important to have indicators that allow assessing the financial stability of a company in the long term. The economic-financial stability of an enterprise can be characterized by indicators of working capital, working capital requirements and net treasury.

In this article we analyze the economic and financial stability of water and sewerage operators in Romania and the effect of financial balance on their performance.

2. Literature review

Many researchers approach the problem of working capital as a primordial problem of the functioning of an enterprise (Bureau & Py, 2021) (Dyreg & Mayew & Schipper, 2017). The existence of an adequate working capital brings advantages for the company and is an internal source of financing of the activity (Fadil & St-Pierre, 2016). Many specialized works address the problem of the working capital expressed by Net Global Working Capital (NGWC) calculated with the formula (Petrescu, 2010), (Țilică și Ciobanu, 2019), (Juhel & Dufour & Severin, 2015), (Niculescu, 2005):

$$NGWC = \text{Stable (acyclic) resources} - \text{Stable (acyclic) assets}$$

Net Global Working Capital is calculated on the basis of the functional balance sheet (Vâlceanu, Robu and Georgescu, 2005).

Other researchers believe that working capital can be approached quantitatively and qualitatively (Guthmann, 1953), (Boopathi & Leeson, 2016). Working funds (fr, fonds de roulement) by qualitative approach is equivalent to the notion of working capital. The financial stability of a company depends on how it is able to cover short-term liabilities from cyclical assets. Through a different approach, the Working Fund contributes to ensuring the working capital needs for current operations.

Working capital can be considered an indicator of the liquidity of a company (Tarnóczy, Fenyves & Vörös, 2014). Companies may face the risk of insolvency if the working capital is negative (Horváth, 2020). An important task of financial management is to manage this risk and procure adequate working funds from internal sources (from working capital) or from external sources (long-term loans, capital attraction).

As is clear from the above, for assessing the financial stability of an enterprise the working capital indicator is naturally complemented by the required working capital indicator. The required working capital is calculated using the formula:

$$\text{Required Working Capital (RWC)} = (\text{Inventories} + \text{Receivables} + \text{Expenses in advance up to one year}) - (\text{Short-term debt} - \text{Treasury bank loans} + \text{Advance income up to one year})$$

In the analysis of the working capital and the needs for working capital we can use the following indicators (Robu et al., 2014):

$$\text{Duration of Rotation Required Working Capital (DR}_{RWC}) = \frac{RWC}{NTU} \times 360$$

$$\text{Security Margin Rate (SMR)} = \frac{WC}{NTU} \times 360$$

$$\text{Financing Rate of Required Working Capital (R}_{FRWC}) = \frac{WC}{RWC} \times 100$$

$$\text{Financing Rate of Cyclical Operating Assets (R}_{FCOA}) = \frac{WC}{ACE} \times 100$$

$$\text{Financing Rate of Required Working Capital due to Treasury Credits (R}_{FRWCTC}) = \frac{T_{CRED}}{RWC} \times 100$$

where:

NTU - Net Turnover, *TCRED* - Treasury Credits

With these indicators, we can analyze in detail the financial stability rates of the enterprise.

3. The method of research used and case study

As a research method, we conducted a review of the literature and a case study in the water and sewerage sector in Romania. The database was made on the basis of the Annual Financial Statements of the regional water and sewerage operators in Romania for the period 2014-2019. Data were collected from 42 regional operators representing 95.54% of the major water and sewerage operators in Romania. As the first step of the analysis, we calculated the average FR, NFR and TN at the country level for the period 2014-2019.

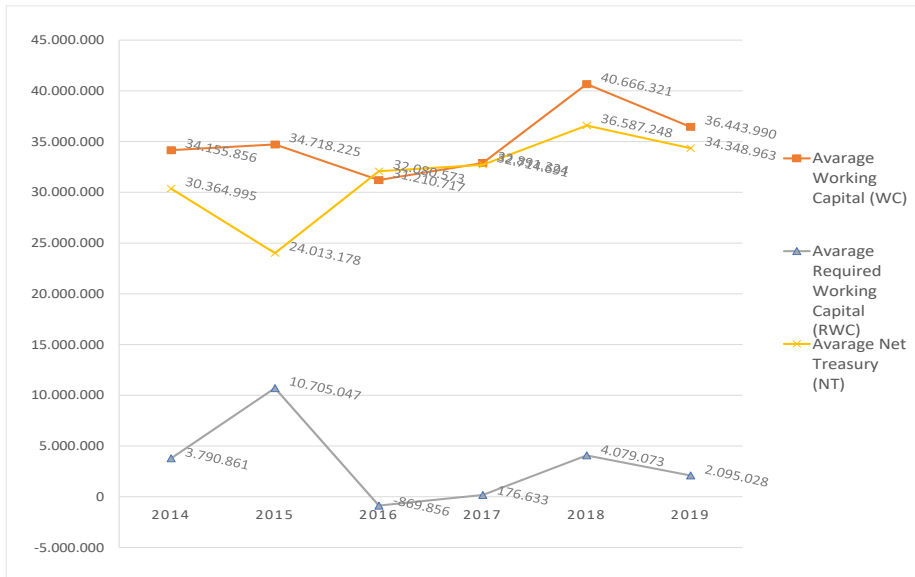
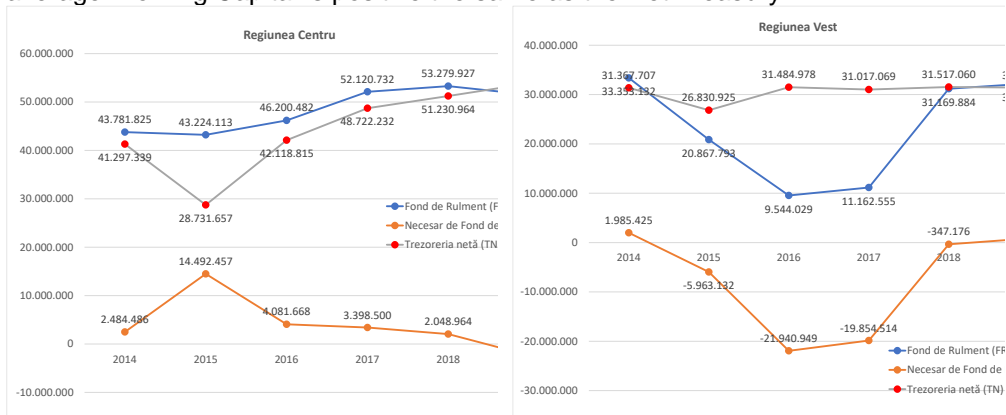


Figure no.1 the dynamics of average WC, RWC and NT in water and sewerage operators in the period 2014-2019 at the country level (source: own elaboration)

As follows from Figure no.1 the average working capital at the country level during the period analyzed does not show much fluctuation. In the period 2015-2016 there is a small decrease in their value. In theory, these high average values present a good financial balance for the companies in the sector, but too high WC values can generate capital costs if these resources have been attracted from long-term loans. The other theoretical variant that these attracted resources generate dividend expectations can be excluded in this sector of activity, since the profit generated by these enterprises is reinvested as a result of the legal regulations in force.

At the regional level, the financial stability of water and sewerage operators shows deviations from the national average (figure no.2), but in each region the average Working Capital is positive the same as the Net Treasury.



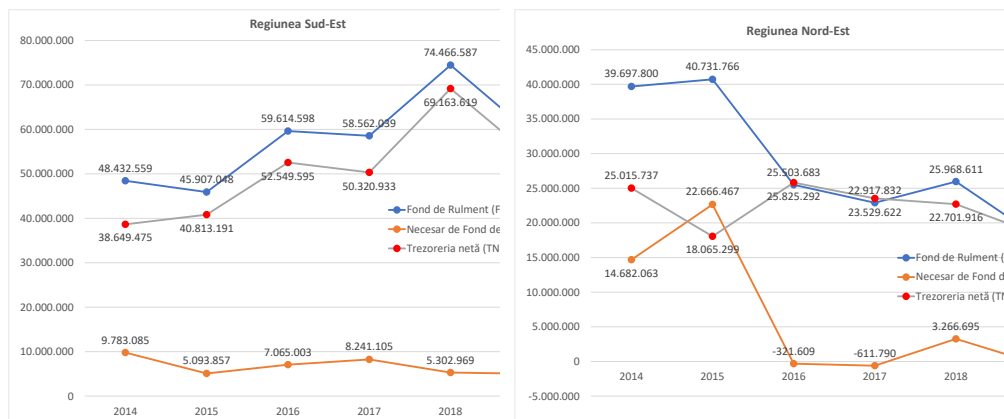


Figure no.2 Dynamics of average Working Capital, Required Working Capital and Net Treasury at the level of regional water and sewerage operators in the Central, West, South-East and North-East regions in the period 2014-2019 (source: own elaboration)

In the North-East Region, both the Working Capital and the Net Treasury are constantly declining but retain positive value. In the South-East Region values are increasing with the exception of 2019. It would probably be useful to conduct a comparative analysis of businesses in the two regions to find the explanations and factors that led to the increase and decrease in working capital and Net Treasury.

To investigate whether there is a relationship between economic-financial balance and economic performance (net profit) we conducted a statistical analysis. In the analysis with the help of SPSS we examined the correlation between Net Profit and Working Capital, Required Working Capital and Net Treasury.

Table no.1. Correlations between Net Profit and WC, RWC and NT at regional water and sewerage operators

		WC	RWC	NT
Net Profit	Pearson Correlation	,582**	,170**	,564**
	Sig. (2-tailed)	,000	,008	,000
	N	240	240	240
WC	Pearson Correlation	1	,494**	,846**
	Sig. (2-tailed)		,000	,000
	N	240	240	240
RWC	Pearson Correlation	,494**	1	-,045
	Sig. (2-tailed)	,000		,490
	N	240	240	240
NT	Pearson Correlation	,846**	-,045	1
	Sig. (2-tailed)	,000	,490	
	N	240	240	240

(source: own elaboration)

From the statistical analysis it follows that there is a strong and significant correlation between the Net Profit variable and the WC and NT variables and a less strong but significant relationship between the Net Profit and RWC.

The correlation is strong but cannot establish the cause-effect relationship, that is, we cannot determine whether the increase in Net Profit has an effect on Working Capital and Net Treasury or vice versa.

3. Conclusions

Economic-financial stability is of great importance in the functioning of an enterprise. Financially stable businesses are more attractive to both potential investors and banks when lending.

In the case of regional water and sewerage operator's financial stability characterized by Working Capital, Required Working Capital and Net Treasury has corresponding values, even too high. These public undertakings providing vital services to both the population and other entities are financially stable.

The average values recorded in working capital and net Treasury in the developing regions are different, but in all regions, they have positive values.

The highest average values are recorded in the South-East Development Region (probably due to the largest operator of water and sewerage, that of Constanta). The lowest average values are recorded in the South-West region where two out of the five operators have negative Working Capital, but maintain a positive Net Treasury because they also have negative Required Working Capital.

Of course, the size of the working capital can theoretically be influenced by the size of the net result, the size of the dividends distributed, the change in the medium and long-term debts, the net value of fixed assets and the change in the share capital. In the water and sewerage sector these factors generally come down to the influence of Net Profit (Loss), change in medium and long-term debts and investment policy.

Given that at the level of the water and sewerage sector the net treasury has quite high values, it can be the problem of poor financial management related to this element, where there are resources that could be invested at least in the short term in government securities or other similar titles that are acceptable for public enterprises.

In later research it would be interesting to analyze whether there is a correlation between "the stability of" general managers (CEO) and the performance and economic stability of these businesses.

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